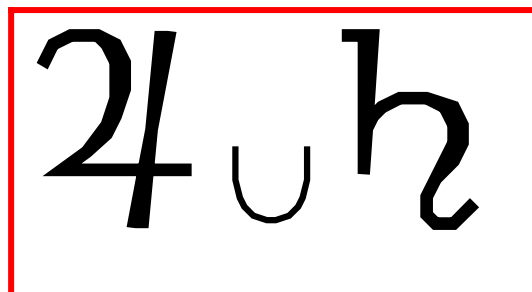
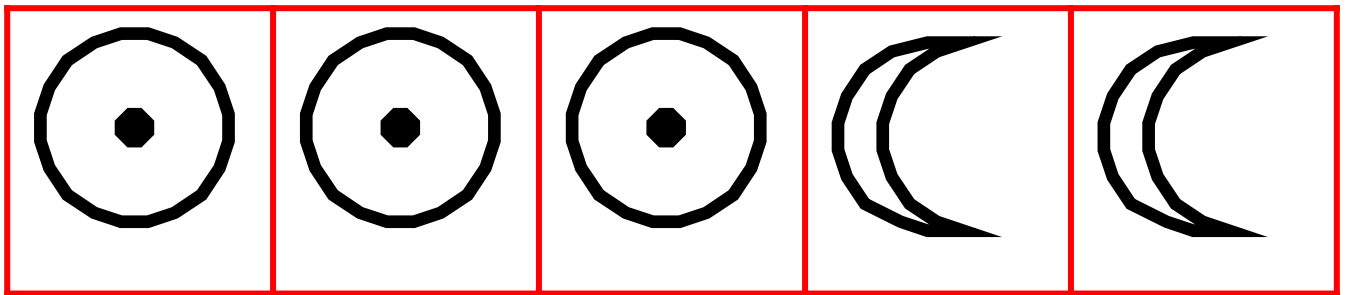


God ' s Hand at Poker

An Apocryphal Tale for 2017 through 2024



Written by Patrick Richard Ahmatov

Deck of Cards

T. Texas Tyler

During the North African champagne,
A group of soldier boys had been on a long hike
They came to a town called Cassino.
The next day, being, Sunday, some of the boys went to church,
And after the Chaplin had read the prayer,
The text was taken up next.
Those of the boys who had a prayer books took them out,
But, this one boy only had a deck of cards,
And so he spread them out.
The Sargent saw the cards and said
"Soldier, put away those cards."
After the services were over, the boy was taken prisoner,
And brought before the Provost Marshall .
The Marshall said "Sargent, why have you brought this man here?"
"For playing cards in church Sir."
"And what have you to say for yourself son?"
"Much sir", replied the soldier.
The Marshall said, "I hope so, because if not,
I shall punish you more than any man was ever punished."
The soldier boy said "Sir I have been on a long March for six days
I have neither Bible nor prayer book,
But I hope to satisfy you, Sir," with the purity of my intentions."
And with that the boy begin his story.
"You see Sir,
When I look at the ace in my deck of
Cards, it reminds me that there is but one God,
And the deuce,
Tells me that Bible is divided into
Two parts, the old and the new testament.
When I see the Trey, I think of father, the son and the holy ghost.
And when I look at the four,
I think of four evangelists who preached the gospel.
There were Matthew, Mark, Luke and John.

And when I see the five,
It reminds me of the five wise virgins, who trimmed their lamp,
There were ten of them,
Five were wise and were saved, five were foolish and were shut out.
When I look at the six, I know that in six days,
God made this great heaven and earth.
And the seven, tells me that on the seventh day,
He rested from his great work,
And called it holy.
And when I see the eight, I think of the eight righteous person,
God saved when he destroyed this earth.
There were none Noah, his wife their three sons and their wives.
And when I see the nine, I think of the lepers our Savior cleansed,
And nine of the ten, didn't even thank him.
And of course when I see the ten,
I always remembered the ten commandments,
The ten commandments that God handed
Down to Moses on a tablets of stone.
When I see the King Sir, I know there is but one King of heaven.
God the Almighty.
And when I see the Queen, I think of the blessed virgin Mary,
The Queen of heaven,
And the jack of knaves is the devil.
When I count the spots in a deck of cards,
I find 365, the number of days in a year.
There are 52 cards, the number of weeks in a year.
There are thirteen tricks, the number of weeks in a quarter.
There a four suits, the number of weeks in a month.
And twelve picture cards, the number of months in a year.
So you see Sir,
My deck of cards servers me not only as a
Bible or almanacs, but also a prayer book.

This little piece was written by T. Texas Tyler and performed by
both T. Texas Tyler and Tex Ritter.

The preceding lyrics were lifted off of the internet. Like most things readily accessible on the internet, they were filthy. The filth was not in the body but rather in the garments of the body. I took the liberty to cleanse the words by first copying them down to notepad and saving the file as a *.txt document. That process filtered out any malicious code. Then I reopened the text document and copied the contents to the LibreOffice *.odf document that I was working on. From there on it was just a matter of presentation (new garments).

T. Texas Tyler's "Deck of Cards" was close to the mark. Not on the mark, but close enough. The late George Eastman of Eastman & Kodak fame came too close to the mark and was murdered for it. Due to a lack of verifiable background, I will here attempt to reconstruct the origin of the deck of cards by the use logic and reason to re-engineer the deck of cards as an ancient tarot and the calendar that the ancient tarot was associated with.

There are no secrets. Anything that has happened in the past has left a legacy in the present. The legacy may be something big and obvious or it may be something so small and minor that it is commonly overlooked. It may be overtly hidden by being openly displayed in plain sight to all; or it may be covertly hidden by slipping it under the carpet where it presents a very minor "bump" that could just as easily be a small pebble. This is the basic philosophy behind 'The Calculus' in mathematics. Likewise, the secrets of the future are also revealed in the present. The present will be revealed to the future as a legacy. There are no secrets.

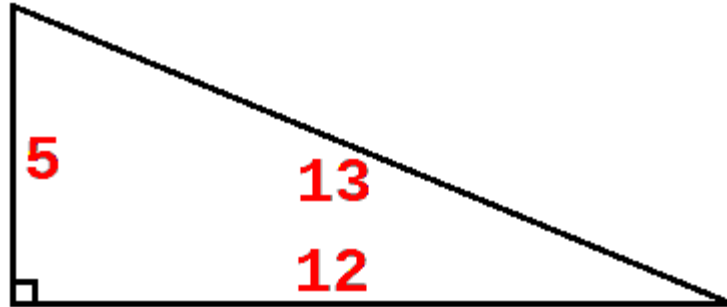
It is our place to read the legacies of the present as we would read a scroll outlining history. If we permit ourselves to read the scroll correctly, easier said than done, we may come up with a true tale more fantastic than any imaginative fable.

We can also read the future within certain limitations. These are the same limitations that apply to integral calculus when an encoded history of real functions is integrated into a greater whole.

The Ancient Calendar

The Ancient Tarot

The Deck of Cards



The two simplest (lowest) right triangles are the 3:4:5 right triangle and the 5:12:13 right triangle.

The 3:4:5 right triangle is the right triangle most familiar to people. It is widely used in construction and picture frames. It is the most basic of the right triangles. Our culture is filled with legacies founded on this right triangle. Entire volumes could be written on the subject. However, our interest here is in the other right triangle, the one less known, the 5:12:13 right triangle.

Nobody ever indexed a civil calendar to a seasonal solstice. At a seasonal solstice the declination of the Sun is "floating" in an indeterminate direction for about two weeks. A seasonal equinox is more commonly used. At a seasonal equinox the Sun has its greatest declinational rate of change. A seasonal equinox is also the most pronounced. Normally, but not always, the ascending node commonly referred to as the spring equinox is used to index the beginning of the year. Today we are apparently using the star Sirius in opposition to the Sun from the perspective of Greenwich, England as the index.

Today we index our clocks to the general time of night that the Terrestrial meridian on which we dwell is in opposition to the Sun. The "Universal" clock time based on the "Prime Meridian" running through the Royal Observatory in Greenwich, England is presumably indexed to the time of night that the Sun is in opposition to the star Sirius. Thus, due to the elliptical orbit of the Earth about the Sun, the clock time will be slightly different from the time of day by the Sun.

For the "man-on-the-ground" the preceding description of the indexing of the clock is impractical. The practical application is a pointed upright stick, superseded in civilized cultures with an upright pointed obelisk, which then casts a shadow of the Sun onto the level Earth. A problem here is that from a practical viewpoint one can never be sure that the ground is level. However, one can always be sure of their meridian. When the shadow of the Sun is in line with the indicated meridian, the time WILL be Midday or High Noon by the Sun.

The preceding arguments would suggest that in the elder days the people began indexed their time of day to Midday by the Sun. Likewise, they would have indexed the first day of the year to the day of the year when at Midday by the Sun had just crossed the Celestial Equator. This would have been indicated by a marker for the shadow of the Sun. This would then have been the origin of the legacy of "AM" and "PM" referring respectively to "Ante (before) Midday" and "Past Midday." That is the lagacy. Today the legacy has become corrupted by confusion with the newer midnight index. Thus, for example, what we are now calling 10:00 AM should actually be 02:00 AM. Thus "... the evening and the morning were the first day,"

Let me be clear here. I have no arguments against using the midnight index so long as its origins are understood.

Here is a brief lowdown on the Lunar Calendar. There are 365.256365 days in a year. There are 29.53 days in a mean lunar period measured from the New Moon to the following New Moon, defined as a "Moon" from which we obtain the word "Month." There are 12.3690 "Moons" in a year. 29.53 rounds out to 30 and 12.369 Moons in a year indicates that some years will have 12 Moons and other years will have 13 Moons. If a Lunar calendar cycle begins with the first New Moon occurring after Midday on the first day of the Solar Year as indexed to the Ascending Node of the Sun, then the next cycle will begin 19 years later.

In the preceding brief description of the re-engineered Lunar Calendar, it may be seen that the mean length of the lunar month closely approximates the area of the 5:12:13 right triangle. Likewise, the number of Moons in a year will alternately be either 12 or 13, both of which are represented by the long right side and the hypotenuse of the 5:12:13 right triangle respectively.

As a closing comment on the 235 Moons of the 19 year Lunar Cycle with respect to our primary subject, it should be noted that the first day of the first year of the 19 year cycle will likely open with an afternoon solar eclipse!

Next an astronomical observation. It requires 11.86 years for Jupiter to complete an orbit about the Sun. This rounds out to 12 which may be represented by the long right-angle side of the 5:12:13 right triangle. It requires 29.46 years. This high-rounds to 30 which may be represented by the area of the 5:12:13 right triangle. Every 19.85 years Jupiter and Saturn come into a Great Conjunction. Each Great Conjunction is approximately 240° or -120° advanced from the previous Great Conjunction. Every 59.54 years three Great Conjunctions have passed and the Great Conjunctions return to the same place in the Heaven. $[5 \times 12 = 60]$.

A Lunar Calendar is useful in the field. It is always self-evident (unless it is cloudy). Likewise, an Astrological Calendar is also useful in the field. An Astrological Calendar divides the Heaven into 12 sections with respect to the position of the Sun at the time of the Ascending Node. Each section may represent a range for Jupiter for the given year with mnemonic devices (assigned constellations) in order to identify Celestial positions. However, a Civil Government requires a Civil Calendar. The Lunar Calendar and the Astrological Calendar may be superimposed over the Civil Calendar for convenience in the field.

Here is a suggested ancient Civil Calendar arrangement and its relation to the aforementioned 5:12:13 right triangle. The legacies are all about us.

Every 27.32 days the Moon returns to the same place in the Celestial Sphere. That may be high-rounded to 28. Thus let us begin with a 28 day Civil Month with a 4 x 7 matrix representing 4 weeks with 7 days per week. This will closely approximate the self-evident observed positions of the Moon against the stellar background. The seven day week may be represented by the difference in the two right-angle sides of the 5:12:13 right triangle [$12 - 5 = 7$]. Curiously enough this is also the sum of the two right-angle sides of the 3:4:5 right triangle [$3 + 4 = 7$].

A year is comprised of 365.26 days. 13 months of 28 days per month comes to 364 days or 1.26 days short of a full year. This is so close that the slight variation for the quarter may be ignored. Thus, we may have 91 days in a quarter. This is equal to the sum of the numbers from 1 through 13 [$(13 \times (13 + 1))/2 = 91$]. We also have 13 weeks in a quarter. The remaining one or two days represent a government holiday and are taken out of consideration.

The 364 day calendar would have been originally developed for pragmatic purposes. As may be expected, the unscrupulous soothsayers saw an opportunity to make a dishonest profit off of the people using the then new civil calendar (how little things have changed). They created a tarot of the Civil Calendar. The cards were numbered 1 through 13 with 4 suits. The number of "spots" added up to 91 for each suit. The total number of "spots" added up to 364, the number of days in the Civil Year. There were two extra cards to represent the extra days as needed.

This tarot was apparently used in the Middle-East. It appears that during the crusades this tarot was imported into Europe. The European Monarchs could not permit anything that did not do homage to the Royalty. Thus the 13 card became a King, the 12 card became a Queen, and presumably the 11 card became the Jack, possibly representing the Prime Minister. The two extra cards became the two Jokers representing the court Jesters.

Gambling houses then entered the picture. They corrupted the original meanings of the cards for the benefit of their graft. Many games of chance were built around the cards. One of these was Poker. Poker was founded on the mathematical odds of being dealt certain arrangements of the cards. The arrangements Here is a list of the arrangements for poker along with the odds.

1: Royal Flush. The Royal Flush consists of 5 sequential cards from 10 through the Ace as the high card enclosing the three Royal Cards. All five cards are in the same suit. The odds of being dealt a Royal Flush are 649,739:1.

2: Straight Flush: The Straight Flush consists of 5 sequential cards in the same suit. The lowest low card is the Ace as the low card and the highest low card is the 9. The odds of being dealt a Straight Flush are 72,192:1.

3: Four of a Kind. Four of a Kind consists of four cards representing all four suits. All four cards have the same value. The odds of being dealt Four of a Kind are 4,165:1.

4: Full House. A Full House consists of five cards. Two of the cards represent a Pair and the other three cards represent Three of a Kind. There is a cautionary here. All two cards of the Pair MUST be in different suits. Likewise all three cards of the Three of a Kind MUST be in different suits. The odds of being dealt a Full House are 693:1.

5: Flush: The Flush consists of 5 cards in the same suit. The odds of being dealt a Flush are 509:1.

6: Straight: The Straight consists of five sequential cards in varying suits. The odds of being dealt a Straight are 254:1.

7: Three of a Kind. The Three of a Kind consists of three cards of the same value but in three different suits. The odds of being dealt Three of a Kind are 49:1

8: Two Pair. The Two Pair consists of two pairs of cards as the name implies. Each of the two pairs has two cards of the same value but differing suits. However, the value of the two pairs must be different. The odds of being dealt Two Pair are 20:1.

9: One Pair. The One Pair consists of two cards of the same value in differing suits. Caution should be taken to avoid being dealt a One Pair in the same suit. The odds of being dealt a One Pair are 1.37:1.

10: High Card. The High Card simply means that the particular hand that has been dealt contains a highest card and nothing more. The odds of being dealt a High Card are 1:1.

In our little game of Celestial Poker God has thrown down seven cards revealing a Full House and a High Card. That is to say; three solar Eclipses, two Lunar Eclipses, and one Great Conjunction.

Introduction

On 08 Jun 1918, about the time the United States entered WWI, there was a Solar Eclipse that passed over the United States. There would not be another solar eclipse to pass over the contiguous United States until Mon 21 Aug 2017, a span of 99 years.

Between and including the Solar Eclipse of Mon 21 Aug 2017 and including a predicted Solar Eclipse of Mon 08 Apr 2024 there will have been three Solar Eclipses to pass over the contiguous United States. All this in a time span of 6 years, 7 months, and 18 days; a period of just under 7 years!

The preceding 7 year span of time will have also included two Lunar Eclipses of social significance. Meanwhile, sandwiched almost exactly in the center of these Celestial shenanigans, there occurred a Great Conjunction within a matter of hours after the Winter Solstice.

All this is happening at a time when the sins of the fathers are being visited upon the third and the fourth generation of those who committed the offenses and set the United States and the World at large on a path of destruction!

Here is a quick rundown of the Celestial events:

Mon 21 Aug 2017 ----- Total Eclipse of the Sun over United States.

Fri 27 Jul 2018 ----- Lunar Eclipse over Middle-East.

Fri 21 Dec 2020 ----- Great Conjunction of Jupiter and Saturn.

Tue 08 Nov 2022 ----- Lunar Eclipse preceding General Election.

Sat 14 Oct 2023 ----- Annular Eclipse of the Sun over United States.

Mon 08 Apr 2024 ----- Total Eclipse of the Sun over United States.

If this were a Celestial poker game the three solar eclipses and the two lunar eclipses would count as a Full House. The Great Conjunction would act as a High Card to trump any other Full House!

On Mon 21 Aug 2017 a Total Solar Eclipse swept across the Contiguous United States from Northwest to Southeast. It did not touch any other nation. At 18:13:13 UTC at $92^{\circ}33.48'$ W Lon and $38^{\circ}55.68'$ N Lat, directly in the center of the path of Totality, the Eclipse had an azimuth angle of exactly 180° due South at High Noon. At this time and place the altitude of the Sun was $62^{\circ}54'$ above the horizon. The period of totality lasted 160.51 seconds. Compare this to its intersections with the upcoming eclipses of 2023 and 2024.

Interception of Lon $\approx -127^{\circ}21.6'$	Interception of Lat $\approx + 44^{\circ}55.8'$
Item = Annular Solar Eclipse Date = 14 Oct 2023 UTC Time = 16:16:30 UTC Lon = -127.36° [$-127^{\circ}21.6'$] Lat = $+ 44.94^{\circ}$ [$+ 44^{\circ}56.4'$] Dur = 266.16" 162 miles Due East Alt = $+14.60^{\circ}$ of Lincoln City, Azi = 117.90° Oregon in Ocean.	Item = Total Solar Eclipse Date = 21 Aug 2017 UTC Time = 17:13:04 UTC Lon = -127.36° [$-127^{\circ}21.6'$] Lat = $+ 44.92^{\circ}$ [$+ 44^{\circ}55.2'$] Dur = 113.64" Alt = $+36.30^{\circ}$ Azi = 111.80°

Interception of Lon $\approx -089^{\circ}16.8'$	Interception of Lat $\approx + 37^{\circ}39.0'$
Item = Total Solar Eclipse Date = 08 Apr 2024 UTC Time = 19:01:10 UTC Lon = -089.28° [$-089^{\circ}16.8'$] Lat = $+ 37.65^{\circ}$ [$+ 37^{\circ}39.0'$] Dur = 249.40" Alt = $+56.80^{\circ}$ Azi = 209.10°	Item = Total Solar Eclipse Date = 17 Aug 2017 UTC Time = 18:21:22 UTC Lon = -089.28° [$-089^{\circ}16.8'$] Lat = $+ 37.65^{\circ}$ [$+ 37^{\circ}39.0'$] Dur = 161.17" Alt = $+63.80^{\circ}$ Azi = 191.80°

The following is an astrological/astronomical profile of this Solar Eclipse.

Universal Clock Date = Mon 21 Aug 2017
 Universal Clock Time = 18:13
 Local Solar Time = 12:00
 Terrestrial Longitude = 092°34'W
 Terrestrial Latitude = 38°56'N
 Compass Azimuth of Sun = 180°00'
 Observed Altitude of Sun = +63°54'
 Apparent Diameter of Sun = 000°31'37"
 Apparent Diameter of Moon = 000°32'37"
 Maximum Totality = 00:02:41

	☉	☾	♀	♁	♂	♃	♅
♈							
♉							
♊							
♋				A26°34'45" +20°43'08"			
♌					A23°27'45" +15°41'10"		
♍							
♎						A19°00'04" -06°50'57"	
♏							A20°30'00" -21°57'20"
♐							
♑	A01°00'15" +11°51'49"	A01°00'45" +11°52'12"	A08°05'45" +04°07'37"				
♒							

Path of Total Solar Eclipse of Mon 21 Aug 2017

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
17:12:00	-128.320	44.931	112.090	35.500	110.800
17:12:10	-128.168	44.930	112.330	35.600	110.900
17:12:20	-128.017	44.929	112.580	35.800	111.100
17:12:30	-127.866	44.928	112.820	35.900	111.300
17:12:40	-127.716	44.927	113.060	36.000	111.400
17:12:50	-127.566	44.925	113.300	36.100	111.600
17:13:00	-127.417	44.924	113.540	36.300	111.800
17:13:10	-127.269	44.922	113.780	36.400	111.900
17:13:20	-127.121	44.920	114.020	36.500	112.100
17:13:30	-126.974	44.918	114.260	36.600	112.300
17:13:40	-126.827	44.916	114.500	36.800	112.500
17:13:50	-126.681	44.914	114.740	36.900	112.600
17:14:00	-126.535	44.911	114.970	37.000	112.800
17:14:10	-126.390	44.909	115.210	37.100	113.000
17:14:20	-126.246	44.906	115.440	37.300	113.100
17:14:30	-126.102	44.903	115.670	37.400	113.300
17:14:40	-125.958	44.900	115.910	37.500	113.500
17:14:50	-125.815	44.897	116.140	37.600	113.600
17:15:00	-125.673	44.893	116.370	37.700	113.800
17:15:10	-125.531	44.890	116.600	37.900	114.000
17:15:20	-125.390	44.886	116.830	38.000	114.100
17:15:30	-125.249	44.883	117.060	38.100	114.300
17:15:40	-125.108	44.879	117.290	38.200	114.500
17:15:50	-124.969	44.875	117.520	38.300	114.600
17:16:00	-124.829	44.870	117.740	38.500	114.800
17:16:10	-124.690	44.866	117.970	38.600	115.000
17:16:20	-124.552	44.862	118.190	38.700	115.100
17:16:30	-124.414	44.857	118.420	38.800	115.300
17:16:40	-124.276	44.852	118.640	38.900	115.500
17:16:50	-124.139	44.848	118.860	39.000	115.600
17:17:00	-124.001	44.842	119.090	39.200	115.800
17:17:10	-123.861	44.836	119.320	39.300	116.000
17:17:20	-123.725	44.830	119.540	39.400	116.200
17:17:30	-123.590	44.825	119.760	39.500	116.300
17:17:40	-123.456	44.819	119.980	39.600	116.500
17:17:50	-123.326	44.816	120.190	39.700	116.600
17:18:00	-123.192	44.810	120.410	39.800	116.800
17:18:10	-123.059	44.804	120.620	40.000	117.000
17:18:20	-122.926	44.798	120.840	40.100	117.100
17:18:30	-122.793	44.792	121.060	40.200	117.300
17:18:40	-122.660	44.785	121.270	40.300	117.500
17:18:50	-122.524	44.777	121.500	40.400	117.600
17:19:00	-122.393	44.771	121.710	40.500	117.800
17:19:10	-122.257	44.762	121.940	40.600	118.000

Path of Total Solar Eclipse of Mon 21 Aug 2017

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
17:19:20	-122.130	44.757	122.140	40.700	118.100
17:19:30	-121.992	44.747	122.380	40.900	118.300
17:19:40	-121.863	44.740	122.590	41.000	118.500
17:19:50	-121.729	44.731	122.810	41.100	118.600
17:20:00	-121.607	44.727	123.000	41.200	118.800
17:20:10	-121.482	44.721	123.200	41.300	119.000
17:20:20	-121.355	44.714	123.410	41.400	119.100
17:20:30	-121.231	44.708	123.600	41.500	119.300
17:20:40	-121.102	44.699	123.820	41.600	119.500
17:20:50	-120.976	44.692	124.020	41.700	119.600
17:21:00	-120.845	44.682	124.240	41.800	119.800
17:21:10	-120.720	44.674	124.440	41.900	120.000
17:21:20	-120.590	44.665	124.660	42.100	120.100
17:21:30	-120.470	44.659	124.850	42.200	120.300
17:21:40	-120.344	44.650	125.050	42.300	120.500
17:21:50	-120.224	44.643	125.240	42.400	120.600
17:22:00	-120.095	44.633	125.460	42.500	120.800
17:22:10	-119.968	44.623	125.670	42.600	121.000
17:22:20	-119.847	44.615	125.870	42.700	121.100
17:22:30	-119.724	44.607	126.060	42.800	121.300
17:22:40	-119.605	44.599	126.250	42.900	121.400
17:22:50	-119.475	44.587	126.470	43.000	121.600
17:23:00	-119.355	44.578	126.670	43.100	121.800
17:23:10	-119.234	44.569	126.860	43.200	121.900
17:23:20	-119.112	44.560	127.060	43.300	122.100
17:23:30	-118.992	44.551	127.260	43.400	122.300
17:23:40	-118.869	44.540	127.460	43.500	122.400
17:23:50	-118.752	44.532	127.640	43.600	122.600
17:24:00	-118.631	44.522	127.840	43.700	122.800
17:24:10	-118.508	44.510	128.050	43.800	122.900
17:24:20	-118.391	44.501	128.230	43.900	123.100
17:24:30	-118.274	44.493	128.420	44.000	123.300
17:24:40	-118.158	44.483	128.600	44.100	123.400
17:24:50	-118.041	44.474	128.790	44.200	123.600
17:25:00	-117.918	44.461	129.000	44.300	123.800
17:25:10	-117.803	44.452	129.180	44.400	123.900
17:25:20	-117.683	44.440	129.380	44.500	124.100
17:25:30	-117.568	44.431	129.560	44.600	124.300
17:25:40	-117.455	44.422	129.730	44.700	124.400
17:25:50	-117.340	44.412	129.920	44.800	124.600
17:26:00	-117.228	44.403	130.090	44.900	124.700
17:26:10	-117.109	44.390	130.290	45.000	124.900
17:26:20	-116.993	44.379	130.480	45.100	125.100
17:26:30	-116.882	44.369	130.650	45.200	125.200

Path of Total Solar Eclipse of Mon 21 Aug 2017

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
17:26:40	-116.764	44.357	130.840	45.300	125.400
17:26:50	-116.651	44.346	131.020	45.400	125.600
17:27:00	-116.536	44.335	131.210	45.500	125.700
17:27:10	-116.422	44.323	131.390	45.600	125.900
17:27:20	-116.310	44.312	131.570	45.700	126.100
17:27:30	-116.191	44.297	131.770	45.800	126.200
17:27:40	-116.080	44.287	131.940	45.900	126.400
17:27:50	-115.965	44.274	132.130	46.000	126.600
17:28:00	-115.852	44.261	132.320	46.100	126.700
17:28:10	-115.735	44.247	132.510	46.200	126.900
17:28:20	-115.630	44.238	132.670	46.300	127.100
17:28:30	-115.515	44.224	132.860	46.400	127.200
17:28:40	-115.403	44.211	133.040	46.500	127.400
17:28:50	-115.292	44.199	133.220	46.600	127.600
17:29:00	-115.183	44.187	133.390	46.700	127.700
17:29:10	-115.068	44.172	133.580	46.800	127.900
17:29:20	-114.962	44.162	133.740	46.900	128.100
17:29:30	-114.852	44.149	133.920	46.900	128.200
17:29:40	-114.742	44.136	134.100	47.000	128.400
17:29:50	-114.624	44.118	134.300	47.100	128.600
17:30:00	-114.521	44.109	134.450	47.200	128.700
17:30:10	-114.415	44.098	134.610	47.300	128.900
17:30:20	-114.306	44.084	134.790	47.400	129.100
17:30:30	-114.198	44.071	134.960	47.500	129.200
17:30:40	-114.090	44.057	135.130	47.600	129.400
17:30:50	-113.987	44.047	135.280	47.700	129.600
17:31:00	-113.881	44.035	135.440	47.800	129.700
17:31:10	-113.774	44.021	135.610	47.900	129.900
17:31:20	-113.666	44.007	135.790	47.900	130.100
17:31:30	-113.555	43.991	135.970	48.000	130.200
17:31:40	-113.454	43.980	136.120	48.100	130.400
17:31:50	-113.341	43.962	136.320	48.200	130.600
17:32:00	-113.244	43.954	136.450	48.300	130.700
17:32:10	-113.142	43.942	136.590	48.400	130.900
17:32:20	-113.033	43.926	136.770	48.500	131.100
17:32:30	-112.924	43.909	136.960	48.600	131.200
17:32:40	-112.828	43.900	137.080	48.700	131.400
17:32:50	-112.724	43.887	137.240	48.700	131.600
17:33:00	-112.620	43.873	137.410	48.800	131.700
17:33:10	-112.516	43.859	137.570	48.900	131.900
17:33:20	-112.413	43.844	137.730	49.000	132.100
17:33:30	-112.309	43.830	137.890	49.100	132.300
17:33:40	-112.206	43.816	138.050	49.200	132.400
17:33:50	-112.103	43.801	138.200	49.300	132.600

Path of Total Solar Eclipse of Mon 21 Aug 2017

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
17:34:00	-112.001	43.787	138.360	49.400	132.800
17:34:10	-111.898	43.772	138.520	49.400	132.900
17:34:20	-111.796	43.757	138.680	49.500	133.100
17:34:30	-111.693	43.742	138.840	49.600	133.300
17:34:40	-111.589	43.726	139.000	49.700	133.400
17:34:50	-111.488	43.710	139.160	49.800	133.600
17:35:00	-111.384	43.694	139.330	49.900	133.800
17:35:10	-111.284	43.679	139.480	50.000	134.000
17:35:20	-111.186	43.666	139.620	50.000	134.100
17:35:30	-111.084	43.650	139.780	50.100	134.300
17:35:40	-110.980	43.632	139.950	50.200	134.500
17:35:50	-110.880	43.617	140.100	50.300	134.600
17:36:00	-110.784	43.604	140.230	50.400	134.800
17:36:10	-110.684	43.588	140.390	50.500	135.000
17:36:20	-110.582	43.571	140.550	50.500	135.200
17:36:30	-110.479	43.553	140.720	50.600	135.300
17:36:40	-110.384	43.540	140.850	50.700	135.500
17:36:50	-110.285	43.524	141.010	50.800	135.700
17:37:00	-110.186	43.508	141.150	50.900	135.800
17:37:10	-110.086	43.491	141.310	51.000	136.000
17:37:20	-109.989	43.476	141.450	51.000	136.200
17:37:30	-109.890	43.459	141.600	51.100	136.400
17:37:40	-109.789	43.440	141.770	51.200	136.500
17:37:50	-109.691	43.424	141.920	51.300	136.700
17:38:00	-109.599	43.412	142.040	51.400	136.900
17:38:10	-109.502	43.396	142.180	51.400	137.100
17:38:20	-109.408	43.382	142.310	51.500	137.200
17:38:30	-109.313	43.367	142.440	51.600	137.400
17:38:40	-109.218	43.351	142.580	51.700	137.600
17:38:50	-109.121	43.334	142.720	51.800	137.800
17:39:00	-109.026	43.318	142.870	51.800	137.900
17:39:10	-108.930	43.302	143.010	51.900	138.100
17:39:20	-108.835	43.285	143.140	52.000	138.300
17:39:30	-108.739	43.268	143.280	52.100	138.500
17:39:40	-108.645	43.253	143.420	52.200	138.600
17:39:50	-108.550	43.236	143.560	52.200	138.800
17:40:00	-108.456	43.219	143.690	52.300	139.000
17:40:10	-108.362	43.203	143.830	52.400	139.200
17:40:20	-108.267	43.186	143.970	52.500	139.300
17:40:30	-108.173	43.169	144.100	52.500	139.500
17:40:40	-108.079	43.152	144.240	52.600	139.700
17:40:50	-107.985	43.134	144.380	52.700	139.900
17:41:00	-107.891	43.117	144.520	52.800	140.000
17:41:10	-107.797	43.099	144.650	52.800	140.200

Path of Total Solar Eclipse of Mon 21 Aug 2017

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
17:41:20	-107.704	43.082	144.790	52.900	140.400
17:41:30	-107.611	43.064	144.920	53.000	140.600
17:41:40	-107.518	43.046	145.050	53.100	140.800
17:41:50	-107.425	43.029	145.190	53.200	140.900
17:42:00	-107.332	43.011	145.320	53.200	141.100
17:42:10	-107.240	42.994	145.450	53.300	141.300
17:42:20	-107.148	42.976	145.580	53.400	141.500
17:42:30	-107.056	42.959	145.710	53.500	141.600
17:42:40	-106.964	42.941	145.840	53.500	141.800
17:42:50	-106.873	42.923	145.970	53.600	142.000
17:43:00	-106.782	42.906	146.100	53.700	142.200
17:43:10	-106.691	42.888	146.230	53.700	142.400
17:43:20	-106.601	42.870	146.350	53.800	142.500
17:43:30	-106.510	42.852	146.480	53.900	142.700
17:43:40	-106.420	42.834	146.600	54.000	142.900
17:43:50	-106.329	42.816	146.730	54.000	143.100
17:44:00	-106.238	42.798	146.860	54.100	143.300
17:44:10	-106.149	42.780	146.990	54.200	143.500
17:44:20	-106.059	42.761	147.110	54.300	143.600
17:44:30	-105.969	42.743	147.240	54.300	143.800
17:44:40	-105.878	42.722	147.370	54.400	144.000
17:44:50	-105.789	42.705	147.490	54.500	144.200
17:45:00	-105.700	42.687	147.610	54.500	144.400
17:45:10	-105.611	42.668	147.730	54.600	144.500
17:45:20	-105.523	42.650	147.850	54.700	144.700
17:45:30	-105.435	42.632	147.970	54.800	144.900
17:45:40	-105.346	42.614	148.090	54.800	145.100
17:45:50	-105.258	42.595	148.210	54.900	145.300
17:46:00	-105.170	42.576	148.330	55.000	145.500
17:46:10	-105.082	42.557	148.450	55.000	145.700
17:46:20	-104.995	42.539	148.570	55.100	145.800
17:46:30	-104.907	42.520	148.680	55.200	146.000
17:46:40	-104.819	42.500	148.810	55.200	146.200
17:46:50	-104.731	42.481	148.920	55.300	146.400
17:47:00	-104.644	42.462	149.040	55.400	146.600
17:47:10	-104.558	42.443	149.150	55.400	146.800
17:47:20	-104.471	42.424	149.270	55.500	147.000
17:47:30	-104.385	42.405	149.380	55.600	147.100
17:47:40	-104.298	42.386	149.500	55.600	147.300
17:47:50	-104.211	42.366	149.610	55.700	147.500
17:48:00	-104.125	42.347	149.720	55.800	147.700
17:48:10	-104.039	42.328	149.840	55.900	147.900
17:48:20	-103.953	42.308	149.950	55.900	148.100
17:48:30	-103.867	42.288	150.060	56.000	148.300

Path of Total Solar Eclipse of Mon 21 Aug 2017

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
17:48:40	-103.782	42.269	150.170	56.000	148.500
17:48:50	-103.696	42.249	150.280	56.100	148.700
17:49:00	-103.611	42.230	150.390	56.200	148.800
17:49:10	-103.526	42.210	150.490	56.200	149.000
17:49:20	-103.441	42.190	150.600	56.300	149.200
17:49:30	-103.357	42.171	150.710	56.400	149.400
17:49:40	-103.272	42.151	150.820	56.400	149.600
17:49:50	-103.188	42.131	150.920	56.500	149.800
17:50:00	-103.103	42.111	151.020	56.600	150.000
17:50:10	-103.019	42.091	151.130	56.600	150.200
17:50:20	-102.935	42.071	151.230	56.700	150.400
17:50:30	-102.851	42.051	151.340	56.800	150.600
17:50:40	-102.768	42.031	151.440	56.800	150.800
17:50:50	-102.684	42.011	151.550	56.900	151.000
17:51:00	-102.601	41.990	151.650	56.900	151.100
17:51:10	-102.517	41.970	151.750	57.000	151.300
17:51:20	-102.434	41.950	151.850	57.100	151.500
17:51:30	-102.351	41.929	151.950	57.100	151.700
17:51:40	-102.268	41.909	152.050	57.200	151.900
17:51:50	-102.185	41.888	152.150	57.300	152.100
17:52:00	-102.103	41.868	152.250	57.300	152.300
17:52:10	-102.020	41.847	152.350	57.400	152.500
17:52:20	-101.938	41.827	152.440	57.400	152.700
17:52:30	-101.856	41.806	152.540	57.500	152.900
17:52:40	-101.774	41.785	152.640	57.600	153.100
17:52:50	-101.692	41.765	152.740	57.600	153.300
17:53:00	-101.610	41.744	152.830	57.700	153.500
17:53:10	-101.529	41.723	152.930	57.700	153.700
17:53:20	-101.447	41.702	153.020	57.800	153.900
17:53:30	-101.366	41.681	153.110	57.900	154.100
17:53:40	-101.285	41.661	153.210	57.900	154.300
17:53:50	-101.204	41.639	153.300	58.000	154.500
17:54:00	-101.123	41.618	153.390	58.000	154.700
17:54:10	-101.042	41.597	153.480	58.100	154.900
17:54:20	-100.962	41.576	153.570	58.200	155.100
17:54:30	-100.881	41.555	153.670	58.200	155.300
17:54:40	-100.801	41.534	153.770	58.300	155.500
17:54:50	-100.720	41.513	153.860	58.300	155.700
17:55:00	-100.640	41.492	153.950	58.400	155.900
17:55:10	-100.560	41.470	154.040	58.400	156.100
17:55:20	-100.481	41.449	154.130	58.500	156.300
17:55:30	-100.401	41.427	154.220	58.500	156.500
17:55:40	-100.321	41.406	154.300	58.600	156.700
17:55:50	-100.242	41.385	154.390	58.700	156.900

Path of Total Solar Eclipse of Mon 21 Aug 2017

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
17:56:00	-100.162	41.363	154.480	58.700	157.100
17:56:10	-100.083	41.342	154.560	58.800	157.300
17:56:20	-100.004	41.320	154.650	58.800	157.500
17:56:30	-99.925	41.298	154.730	58.900	157.700
17:56:40	-99.846	41.277	154.810	58.900	157.900
17:56:50	-99.768	41.255	154.900	59.000	158.100
17:57:00	-99.689	41.233	154.980	59.000	158.300
17:57:10	-99.611	41.211	155.060	59.100	158.500
17:57:20	-99.532	41.189	155.150	59.100	158.700
17:57:30	-99.454	41.167	155.230	59.200	159.000
17:57:40	-99.376	41.145	155.310	59.300	159.200
17:57:50	-99.298	41.123	155.390	59.300	159.400
17:58:00	-99.220	41.101	155.460	59.400	159.600
17:58:10	-99.142	41.079	155.540	59.400	159.800
17:58:20	-99.065	41.057	155.620	59.500	160.000
17:58:30	-98.987	41.035	155.700	59.500	160.200
17:58:40	-98.910	41.013	155.780	59.600	160.400
17:58:50	-98.833	40.991	155.850	59.600	160.600
17:59:00	-98.756	40.968	155.930	59.700	160.800
17:59:10	-98.679	40.946	156.010	59.700	161.000
17:59:20	-98.602	40.924	156.080	59.800	161.300
17:59:30	-98.525	40.901	156.160	59.800	161.500
17:59:40	-98.448	40.879	156.230	59.900	161.700
17:59:50	-98.372	40.856	156.300	59.900	161.900
18:00:00	-98.295	40.834	156.380	60.000	162.100
18:00:10	-98.219	40.811	156.450	60.000	162.300
18:00:20	-98.143	40.789	156.520	60.100	162.500
18:00:30	-98.067	40.766	156.590	60.100	162.700
18:00:40	-97.991	40.743	156.660	60.200	162.900
18:00:50	-97.915	40.721	156.730	60.200	163.200
18:01:00	-97.839	40.698	156.800	60.300	163.400
18:01:10	-97.763	40.675	156.870	60.300	163.600
18:01:20	-97.688	40.652	156.940	60.300	163.800
18:01:30	-97.612	40.629	157.010	60.400	164.000
18:01:40	-97.537	40.606	157.080	60.400	164.200
18:01:50	-97.462	40.583	157.150	60.500	164.500
18:02:00	-97.387	40.560	157.210	60.500	164.700
18:02:10	-97.312	40.537	157.280	60.600	164.900
18:02:20	-97.237	40.514	157.340	60.600	165.100
18:02:30	-97.162	40.491	157.410	60.700	165.300
18:02:40	-97.087	40.468	157.470	60.700	165.500
18:02:50	-97.013	40.445	157.540	60.800	165.800
18:03:00	-96.938	40.422	157.600	60.800	166.000
18:03:10	-96.864	40.398	157.660	60.800	166.200

Path of Total Solar Eclipse of Mon 21 Aug 2017

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
18:03:20	-96.790	40.375	157.730	60.900	166.400
18:03:30	-96.716	40.352	157.790	60.900	166.600
18:03:40	-96.641	40.328	157.850	61.000	166.900
18:03:50	-96.567	40.305	157.910	61.000	167.100
18:04:00	-96.494	40.281	157.970	61.100	167.300
18:04:10	-96.420	40.258	158.030	61.100	167.500
18:04:20	-96.346	40.234	158.090	61.100	167.700
18:04:30	-96.273	40.211	158.150	61.200	168.000
18:04:40	-96.199	40.187	158.210	61.200	168.200
18:04:50	-96.126	40.164	158.260	61.300	168.400
18:05:00	-96.053	40.140	158.320	61.300	168.600
18:05:10	-95.980	40.116	158.380	61.300	168.800
18:05:20	-95.907	40.093	158.430	61.400	169.100
18:05:30	-95.834	40.069	158.490	61.400	169.300
18:05:40	-95.761	40.045	158.550	61.500	169.500
18:05:50	-95.688	40.021	158.600	61.500	169.700
18:06:00	-95.616	39.997	158.650	61.500	170.000
18:06:10	-95.543	39.973	158.710	61.600	170.200
18:06:20	-95.471	39.949	158.760	61.600	170.400
18:06:30	-95.398	39.925	158.810	61.700	170.600
18:06:40	-95.326	39.901	158.870	61.700	170.900
18:06:50	-95.254	39.877	158.920	61.700	171.100
18:07:00	-95.182	39.853	158.970	61.800	171.300
18:07:10	-95.110	39.829	159.020	61.800	171.500
18:07:20	-95.038	39.804	159.070	61.800	171.800
18:07:30	-94.966	39.780	159.120	61.900	172.000
18:07:40	-94.895	39.756	159.160	61.900	172.200
18:07:50	-94.823	39.732	159.210	62.000	172.500
18:08:00	-94.751	39.707	159.260	62.000	172.700
18:08:10	-94.680	39.683	159.310	62.000	172.900
18:08:20	-94.609	39.659	159.360	62.100	173.100
18:08:30	-94.537	39.634	159.400	62.100	173.400
18:08:40	-94.466	39.610	159.450	62.100	173.600
18:08:50	-94.395	39.585	159.490	62.200	173.800
18:09:00	-94.324	39.560	159.540	62.200	174.100
18:09:10	-94.253	39.536	159.580	62.200	174.300
18:09:20	-94.183	39.511	159.620	62.300	174.500
18:09:30	-94.112	39.487	159.670	62.300	174.800
18:09:40	-94.041	39.462	159.710	62.300	175.000
18:09:50	-93.971	39.437	159.750	62.400	175.200
18:10:00	-93.900	39.413	159.800	62.400	175.500
18:10:10	-93.830	39.388	159.840	62.400	175.700
18:10:20	-93.760	39.363	159.880	62.400	175.900
18:10:30	-93.690	39.338	159.920	62.500	176.200

Path of Total Solar Eclipse of Mon 21 Aug 2017

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
18:10:40	-93.620	39.313	159.960	62.500	176.400
18:10:50	-93.550	39.289	160.000	62.500	176.600
18:11:00	-93.480	39.264	160.030	62.600	176.900
18:11:10	-93.410	39.239	160.080	62.600	177.100
18:11:20	-93.340	39.214	160.120	62.600	177.300
18:11:30	-93.271	39.189	160.150	62.700	177.600
18:11:40	-93.201	39.163	160.190	62.700	177.800
18:11:50	-93.131	39.138	160.220	62.700	178.000
18:12:00	-93.062	39.113	160.260	62.700	178.300
18:12:10	-92.993	39.088	160.290	62.800	178.500
18:12:20	-92.923	39.063	160.330	62.800	178.700
18:12:30	-92.854	39.037	160.370	62.800	179.000
18:12:40	-92.785	39.012	160.400	62.900	179.200
18:12:50	-92.716	38.987	160.430	62.900	179.400
18:13:00	-92.647	38.961	160.470	62.900	179.700
18:13:10	-92.578	38.936	160.500	62.900	179.900
18:13:20	-92.510	38.911	160.530	63.000	180.200
18:13:30	-92.441	38.885	160.560	63.000	180.400
18:13:40	-92.372	38.860	160.600	63.000	180.600
18:13:50	-92.304	38.834	160.630	63.000	180.900
18:14:00	-92.235	38.808	160.660	63.100	181.100
18:14:10	-92.167	38.783	160.680	63.100	181.300
18:14:20	-92.099	38.757	160.710	63.100	181.600
18:14:30	-92.031	38.731	160.740	63.100	181.800
18:14:40	-91.962	38.706	160.760	63.100	182.100
18:14:50	-91.894	38.680	160.790	63.200	182.300
18:15:00	-91.826	38.654	160.820	63.200	182.500
18:15:10	-91.758	38.628	160.840	63.200	182.800
18:15:20	-91.691	38.603	160.860	63.200	183.000
18:15:30	-91.623	38.577	160.880	63.300	183.300
18:15:40	-91.555	38.551	160.900	63.300	183.500
18:15:50	-91.487	38.525	160.920	63.300	183.700
18:16:00	-91.420	38.499	160.930	63.300	184.000
18:16:10	-91.352	38.473	160.950	63.300	184.200
18:16:20	-91.285	38.447	160.970	63.400	184.500
18:16:30	-91.218	38.421	160.990	63.400	184.700
18:16:40	-91.150	38.395	161.010	63.400	185.000
18:16:50	-91.083	38.369	161.020	63.400	185.200
18:17:00	-91.016	38.343	161.040	63.400	185.400
18:17:10	-90.949	38.317	161.030	63.400	185.700
18:17:20	-90.882	38.290	161.050	63.500	185.900
18:17:30	-90.815	38.264	161.060	63.500	186.200
18:17:40	-90.748	38.238	161.070	63.500	186.400
18:17:50	-90.681	38.212	161.080	63.500	186.700

Path of Total Solar Eclipse of Mon 21 Aug 2017

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
18:18:00	-90.615	38.185	161.090	63.500	186.900
18:18:10	-90.548	38.159	161.100	63.500	187.100
18:18:20	-90.482	38.133	161.100	63.600	187.400
18:18:30	-90.415	38.106	161.100	63.600	187.600
18:18:40	-90.349	38.080	161.110	63.600	187.900
18:18:50	-90.282	38.053	161.120	63.600	188.100
18:19:00	-90.216	38.027	161.130	63.600	188.400
18:19:10	-90.150	38.000	161.140	63.600	188.600
18:19:20	-90.083	37.974	161.140	63.600	188.800
18:19:30	-90.017	37.947	161.140	63.700	189.100
18:19:40	-89.951	37.921	161.150	63.700	189.300
18:19:50	-89.885	37.894	161.150	63.700	189.600
18:20:00	-89.819	37.867	161.160	63.700	189.800
18:20:10	-89.753	37.841	161.160	63.700	190.100
18:20:20	-89.688	37.814	161.160	63.700	190.300
18:20:30	-89.622	37.787	161.170	63.700	190.600
18:20:40	-89.556	37.760	161.160	63.700	190.800
18:20:50	-89.491	37.733	161.160	63.800	191.000
18:21:00	-89.425	37.706	161.170	63.800	191.300
18:21:10	-89.360	37.679	161.170	63.800	191.500
18:21:20	-89.294	37.652	161.170	63.800	191.800
18:21:30	-89.229	37.625	161.170	63.800	192.000
18:21:40	-89.163	37.598	161.170	63.800	192.300
18:21:50	-89.098	37.571	161.170	63.800	192.500
18:22:00	-89.033	37.544	161.170	63.800	192.800
18:22:10	-88.968	37.517	161.160	63.800	193.000
18:22:20	-88.903	37.490	161.160	63.800	193.300
18:22:30	-88.838	37.463	161.160	63.800	193.500
18:22:40	-88.773	37.436	161.150	63.800	193.700
18:22:50	-88.708	37.408	161.150	63.800	194.000
18:23:00	-88.643	37.381	161.140	63.900	194.200
18:23:10	-88.578	37.354	161.140	63.900	194.500
18:23:20	-88.513	37.327	161.130	63.900	194.700
18:23:30	-88.449	37.299	161.120	63.900	195.000
18:23:40	-88.384	37.272	161.120	63.900	195.200
18:23:50	-88.320	37.244	161.110	63.900	195.500
18:24:00	-88.255	37.217	161.100	63.900	195.700
18:24:10	-88.190	37.190	161.090	63.900	196.000
18:24:20	-88.126	37.162	161.080	63.900	196.200
18:24:30	-88.062	37.135	161.070	63.900	196.400
18:24:40	-87.997	37.107	161.060	63.900	196.700
18:24:50	-87.933	37.079	161.040	63.900	196.900
18:25:00	-87.869	37.052	161.030	63.900	197.200
18:25:10	-87.805	37.024	161.010	63.900	197.400

Path of Total Solar Eclipse of Mon 21 Aug 2017

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
18:25:20	-87.741	36.996	161.000	63.900	197.700
18:25:30	-87.677	36.969	160.960	63.900	197.900
18:25:40	-87.613	36.941	160.940	63.900	198.200
18:25:50	-87.549	36.913	160.920	63.900	198.400
18:26:00	-87.485	36.885	160.910	63.900	198.600
18:26:10	-87.421	36.858	160.890	63.900	198.900
18:26:20	-87.357	36.830	160.870	63.900	199.100
18:26:30	-87.293	36.802	160.850	63.900	199.400
18:26:40	-87.230	36.774	160.810	63.900	199.600
18:26:50	-87.166	36.746	160.790	63.900	199.900
18:27:00	-87.103	36.718	160.770	63.900	200.100
18:27:10	-87.039	36.690	160.750	63.900	200.400
18:27:20	-86.975	36.662	160.720	63.900	200.600
18:27:30	-86.912	36.634	160.700	63.900	200.800
18:27:40	-86.849	36.606	160.680	63.900	201.100
18:27:50	-86.785	36.577	160.660	63.900	201.300
18:28:00	-86.722	36.549	160.640	63.900	201.600
18:28:10	-86.659	36.521	160.620	63.900	201.800
18:28:20	-86.596	36.493	160.590	63.900	202.100
18:28:30	-86.532	36.465	160.560	63.800	202.300
18:28:40	-86.469	36.437	160.540	63.800	202.500
18:28:50	-86.406	36.408	160.510	63.800	202.800
18:29:00	-86.343	36.380	160.500	63.800	203.000
18:29:10	-86.280	36.352	160.470	63.800	203.300
18:29:20	-86.217	36.323	160.440	63.800	203.500
18:29:30	-86.154	36.295	160.420	63.800	203.800
18:29:40	-86.091	36.266	160.390	63.800	204.000
18:29:50	-86.028	36.238	160.360	63.800	204.200
18:30:00	-85.965	36.209	160.330	63.800	204.500
18:30:10	-85.903	36.181	160.310	63.800	204.700
18:30:20	-85.840	36.152	160.280	63.800	205.000
18:30:30	-85.777	36.124	160.250	63.800	205.200
18:30:40	-85.715	36.095	160.220	63.700	205.500
18:30:50	-85.652	36.066	160.190	63.700	205.700
18:31:00	-85.590	36.037	160.160	63.700	205.900
18:31:10	-85.527	36.009	160.120	63.700	206.200
18:31:20	-85.465	35.980	160.100	63.700	206.400
18:31:30	-85.402	35.951	160.070	63.700	206.700
18:31:40	-85.340	35.921	160.040	63.700	206.900
18:31:50	-85.278	35.892	160.010	63.700	207.100
18:32:00	-85.216	35.864	159.970	63.600	207.400
18:32:10	-85.154	35.835	159.940	63.600	207.600
18:32:20	-85.091	35.806	159.900	63.600	207.800
18:32:30	-85.029	35.777	159.880	63.600	208.100

Path of Total Solar Eclipse of Mon 21 Aug 2017

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
18:32:40	-84.967	35.748	159.840	63.600	208.300
18:32:50	-84.904	35.719	159.800	63.600	208.600
18:33:00	-84.842	35.691	159.750	63.600	208.800
18:33:10	-84.780	35.662	159.710	63.500	209.000
18:33:20	-84.718	35.633	159.680	63.500	209.300
18:33:30	-84.656	35.604	159.640	63.500	209.500
18:33:40	-84.594	35.574	159.610	63.500	209.700
18:33:50	-84.532	35.545	159.570	63.500	210.000
18:34:00	-84.470	35.516	159.530	63.500	210.200
18:34:10	-84.408	35.487	159.490	63.400	210.400
18:34:20	-84.346	35.457	159.440	63.400	210.700
18:34:30	-84.284	35.428	159.400	63.400	210.900
18:34:40	-84.223	35.399	159.360	63.400	211.200
18:34:50	-84.161	35.369	159.340	63.400	211.400
18:35:00	-84.101	35.338	159.300	63.400	211.600
18:35:10	-84.040	35.307	159.270	63.300	211.900
18:35:20	-83.978	35.278	159.220	63.300	212.100
18:35:30	-83.916	35.250	159.170	63.300	212.300
18:35:40	-83.853	35.221	159.110	63.300	212.600
18:35:50	-83.792	35.192	159.060	63.300	212.800
18:36:00	-83.732	35.160	159.040	63.200	213.000
18:36:10	-83.670	35.131	159.000	63.200	213.200
18:36:20	-83.609	35.101	158.950	63.200	213.500
18:36:30	-83.547	35.071	158.900	63.200	213.700
18:36:40	-83.487	35.041	158.860	63.200	213.900
18:36:50	-83.424	35.013	158.800	63.100	214.200
18:37:00	-83.362	34.984	158.740	63.100	214.400
18:37:10	-83.301	34.953	158.700	63.100	214.600
18:37:20	-83.239	34.925	158.650	63.100	214.900
18:37:30	-83.177	34.895	158.600	63.000	215.100
18:37:40	-83.116	34.866	158.540	63.000	215.300
18:37:50	-83.054	34.836	158.480	63.000	215.500
18:38:00	-82.993	34.807	158.430	63.000	215.800
18:38:10	-82.931	34.777	158.370	62.900	216.000
18:38:20	-82.870	34.747	158.320	62.900	216.200
18:38:30	-82.809	34.717	158.280	62.900	216.500
18:38:40	-82.748	34.687	158.220	62.900	216.700
18:38:50	-82.686	34.657	158.170	62.800	216.900
18:39:00	-82.625	34.627	158.110	62.800	217.100
18:39:10	-82.564	34.597	158.050	62.800	217.400
18:39:20	-82.503	34.567	158.000	62.700	217.600
18:39:30	-82.442	34.537	157.940	62.700	217.800
18:39:40	-82.381	34.506	157.880	62.700	218.000
18:39:50	-82.320	34.476	157.820	62.700	218.200

Path of Total Solar Eclipse of Mon 21 Aug 2017

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
18:40:00	-82.259	34.446	157.770	62.600	218.500
18:40:10	-82.198	34.416	157.710	62.600	218.700
18:40:20	-82.137	34.386	157.640	62.600	218.900
18:40:30	-82.076	34.355	157.580	62.500	219.100
18:40:40	-82.015	34.325	157.520	62.500	219.400
18:40:50	-81.954	34.295	157.450	62.500	219.600
18:41:00	-81.893	34.264	157.380	62.500	219.800
18:41:10	-81.832	34.234	157.320	62.400	220.000
18:41:20	-81.771	34.203	157.260	62.400	220.200
18:41:30	-81.711	34.173	157.190	62.400	220.500
18:41:40	-81.650	34.142	157.130	62.300	220.700
18:41:50	-81.589	34.112	157.060	62.300	220.900
18:42:00	-81.528	34.081	156.990	62.300	221.100
18:42:10	-81.467	34.051	156.920	62.200	221.300
18:42:20	-81.407	34.020	156.860	62.200	221.500
18:42:30	-81.346	33.989	156.790	62.200	221.800
18:42:40	-81.285	33.959	156.720	62.100	222.000
18:42:50	-81.224	33.928	156.660	62.100	222.200
18:43:00	-81.164	33.897	156.590	62.100	222.400
18:43:10	-81.103	33.866	156.530	62.000	222.600
18:43:20	-81.042	33.836	156.460	62.000	222.800
18:43:30	-80.981	33.805	156.390	62.000	223.000
18:43:40	-80.921	33.774	156.330	61.900	223.300
18:43:50	-80.860	33.743	156.260	61.900	223.500
18:44:00	-80.799	33.712	156.180	61.800	223.700
18:44:10	-80.739	33.681	156.110	61.800	223.900
18:44:20	-80.678	33.650	156.060	61.800	224.100
18:44:30	-80.618	33.619	155.980	61.700	224.300
18:44:40	-80.557	33.588	155.910	61.700	224.500
18:44:50	-80.496	33.557	155.840	61.700	224.700
18:45:00	-80.436	33.526	155.760	61.600	224.900
18:45:10	-80.375	33.495	155.690	61.600	225.200
18:45:20	-80.314	33.464	155.610	61.500	225.400
18:45:30	-80.254	33.432	155.550	61.500	225.600
18:45:40	-80.193	33.401	155.480	61.500	225.800
18:45:50	-80.133	33.370	155.400	61.400	226.000
18:46:00	-80.072	33.339	155.330	61.400	226.200
18:46:10	-80.012	33.307	155.250	61.300	226.400
18:46:20	-79.951	33.276	155.170	61.300	226.600
18:46:30	-79.890	33.245	155.090	61.300	226.800
18:46:40	-79.830	33.213	155.030	61.200	227.000
18:46:50	-79.769	33.182	154.950	61.200	227.200
18:47:00	-79.709	33.150	154.870	61.100	227.400
18:47:10	-79.648	33.119	154.790	61.100	227.600

Path of Total Solar Eclipse of Mon 21 Aug 2017

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
18:47:20	-79.588	33.087	154.710	61.100	227.800
18:47:30	-79.527	33.056	154.630	61.000	228.000
18:47:40	-79.467	33.024	154.550	61.000	228.200
18:47:50	-79.406	32.993	154.470	60.900	228.400
18:48:00	-79.346	32.961	154.410	60.900	228.600
18:48:10	-79.285	32.929	154.330	60.800	228.800
18:48:20	-79.225	32.897	154.240	60.800	229.000
18:48:30	-79.164	32.866	154.160	60.800	229.200
18:48:40	-79.104	32.834	154.070	60.700	229.400
18:48:50	-79.043	32.802	153.990	60.700	229.600
18:49:00	-78.983	32.770	153.900	60.600	229.800
18:49:10	-78.922	32.738	153.840	60.600	230.000
18:49:20	-78.862	32.707	153.760	60.500	230.200
18:49:30	-78.801	32.675	153.670	60.500	230.400
18:49:40	-78.741	32.643	153.580	60.400	230.600
18:49:50	-78.680	32.611	153.500	60.400	230.800
18:50:00	-78.619	32.579	153.410	60.300	231.000
18:50:10	-78.559	32.547	153.320	60.300	231.200
18:50:20	-78.498	32.515	153.240	60.200	231.400
18:50:30	-78.438	32.483	153.150	60.200	231.600
18:50:40	-78.377	32.450	153.060	60.200	231.800
18:50:50	-78.317	32.418	152.970	60.100	232.000
18:51:00	-78.256	32.386	152.880	60.100	232.100
18:51:10	-78.196	32.354	152.790	60.000	232.300
18:51:20	-78.135	32.322	152.700	60.000	232.500
18:51:30	-78.074	32.289	152.580	59.900	232.700
18:51:40	-78.014	32.257	152.490	59.900	232.900
18:51:50	-77.953	32.225	152.400	59.800	233.100

Some explanations are in order for the preceding spreadsheet.

The first column labeled [UTCTime] represents the time of day on the "universal" global reference clock at the Royal Observatory at Greenwich, England.

The second column labeled [CenterLon] represents the Terrestrial longitude of the observer who is located at the center of the path of the eclipse. It is expressed in terms of degrees with respect to the "prime" reference meridian passing through the Royal Observatory at Greenwich, England, established in 1675 AD. A longitude East of

Greenwich is assigned a positive[+] value and a longitude West of Greenwich is assigned a negative [-] value.

The third column labeled [CenterLat] represents the Terrestrial latitude of the observer who is located at the center of the path of the eclipse. It is expressed in terms of degrees with respect to the "prime" reference latitude located at the Terrestrial Equator. A latitude North of the Equator is assigned a positive [+] value and a latitude South of the Equator is assigned a negative [-] value.

The fourth column labeled [Duration] represents the period of Totality for an observer located at [CenterLon] and [CenterLat]. It is expressed in terms of seconds.

The fifth column labeled [SunAlt] represents the observed altitude of the Sun with respect to the level horizon. It is expressed in terms of degrees.

The sixth column labeled [SunAz] represents the compass azimuth angle of the Sun as a positive angle with respect to the clockwise direction of the Terrestrial North Pole. It is expressed in terms of degrees.

The Middle-Eastern Lunar Eclipse of Fri 27 Jul 2018



Image created using Rand McNally New Millennium Software

This particular Lunar Eclipse occurred a mere 16 hours and 56 minutes after the planet Mars came into its opposition to the Sun. Along the Terrestrial meridian of the Lunar Zenith, represented by the red line, the people were witness to the Blood Moon forming directly over the red planet Mars when it was at its closest and brightest. The indicated red line passes through the very heart of Islam.

The preceding Solar Eclipse of 21 Aug 2017 occurred in the lower reaches of Aquarius with Mercury as a rider. This Lunar Eclipse of 27 Jul 2018 also occurred in the lower reaches of Aquarius with Mars replacing Mercury as a rider. Here are the astrological/astronomical tables of this event.

Universal Clock Date = Fri 27 Jul 2018 UTC

Universal Clock Time = 20:22 UTC

Local Solar Time = 00:00




















Terrestrial Longitude for Lunar Zenith = 056°53'E

Terrestrial Latitude for Vertical Transit = 19°49'S

Apparent Diameter of Moon = 000°29'35"

Maximum Time of Totality = 01:36:32

Mars Opposition Sun = Sat 13:18 UT 28 Jul 2018

							
							
							
							
							
	A07°05'30" +19°04'16"		A24°24'15" +10°06'40"				
							
							
						A11°38'00" -15°01'56"	
							
							A04°06'00" -22°34'58"
		A07°04'15" -19°49'13"			A07°58'45" -25°33'48"		
				A20°26'00" +04°32'24"			

The Great Conjunction of Fri 21 Dec 2020

This Great Conjunction occurred near the Sun within a matter of hours after the Winter Solstice in the Northern Hemisphere. Mars was high and bright in the sky. Because of the proximity to the Sun, the Conjunction occurred for the most part in broad daylight where it was washed out by the light of the Sun.



Mars Enters Aires Direct = Thu 22:00 UT 25 Jun 2020
 Mars goes Retrograde in Aries = Thu 22:23 UT 09 Sep 2020
 Mars Opposition Sun = Tue 23:20 UT 13 Oct 2020
 Mars goes Direct in Aires = Sat 00:35:00 UT 14 Nov 2020
 Winter Solstice = Mon 10:00:00 UT 21 Dec 2020
 Universal Clock Date of Conjunction = Mon 21 Dec 2020
 Universal Clock Time of Conjunction = 13:12
 Terrestrial Longitude for Conjunction Zenith = $057^{\circ}15'W$
 Terrestrial Latitude for Conjunction Zenith = $20^{\circ}28'S$
 Mars Enters Taurus Direct = Wed 22:27 UT 06 Jan 2021
 Mars was continually present in Aires for 6 months and 10 days.

Here are the astrological/astronomical detail of this event.

	☉	☾	♁	♂	♂	♃	♅
♈					A21°09'45" +09°34'36"		
♉							
♊							
♋							
♌							
♍							
♎							
♏							
♐							
♑							
♒							
♓	A00°08'45" -23°26'22"			A05°43'15" -20°28'54"			
♊						A02°45'15" -20°31'22"	A02°45'15" -20°25'05"
♈		A28°18'15" -07°26'17"	A05°02'00" -24°59'50"				

The marker on the display graphic represents the Terrestrial locale where the conjunction was directly overhead. However, it was washed out by the Sun and the Sky. Very few actually saw the conjunction. It was only visible in a very few places at late dusk where the Sun had already set and Jupiter/Saturn were just barely above the horizon.

There are some that would take this particular Great Conjunction as a sign of a coming "Age of Aquarius" given that it occurred in nearly the same Celestial locale as the aforementioned Lunar Eclipse.

The Election Day Lunar Eclipse of Tue 08 Nov 2022

This Lunar Eclipse is part 1 of a 2 part event. This Lunar Eclipse was viewed in the United States in the predawn hours ahead of the opening of the polls for the United States 2022 General Election. 30 days later on the next full moon there would be a Lunar occultation of Mars as Mars came into opposition to the Sun.

Universal Clock Date of Conjunction = Tue 08 Nov 2022

Universal Clock Time of Conjunction = 10:59 UT

Terrestrial Longitude for Conjunction Zenith = 170°00'E

Terrestrial Latitude for Vertical Transit = 16°11'N

Duration of Totality = 01:21:32

	☉	☾	♀	♁	♂	♃	♅
♈							
♉		A12°51'15" +16°10'55"					
♊					A24°33'45" +24°12'37"		
♋							
♌							
♍							
♎	A13°33'00" -16°37'54"		A13°26'45" -16°28'46"	A32°55'45" -17°18'22"			
♏							
♐							
♑							
♒							
♓							A21°39'30" -16°24'12"
♊						A29°55'15" -01°42'56"	

Election Day Lunar Eclipse of 2022 (Bonus):

The following has been formatted differently than the preceding. Just bear in mind that Right Ascension and the Signs of the Zodiac are both indexed to the Spring Equinox as the point of origin with respect to the Sun. Also keep in mind that there are 30° per Zodiacal sign representing 2 hours of Right Ascension.

With respect to the Great Conjunction of 2020, this series of events stand as the opposition to the Lunar Eclipse of 2018. In a similar fashion the upcoming Solar Eclipse of 2024 will stand with respect to the Great Conjunction of 2020 as the opposition to the earlier Solar Eclipse of 2017.

Mars con Moon:

Thu 04:22 UT 08 Dec 2022

Center of Occultation Viewed from 61°34' N Lat and 069°30' W Lon.

Other Planets:

Sun	-----	RA = 16:59:22	Dec = -22°42'29"
Moon	-----	RA = 04:58:36	Dec = +24°59'29"
Mercury	-----	RA = 18:08:21	Dec = -25°43'51"
Venus	-----	RA = 17:49:09	Dec = -24°04'20"
Mars	-----	RA = 04:58:37	Dec = +24°59'30"
Jupiter	-----	RA = 23:59:05	Dec = -01°37'01"
Saturn	-----	RA = 21:32:38	Dec = -15°53'45"

Mars opp Sun:

Thu 05:36 UT 08 Dec 2022

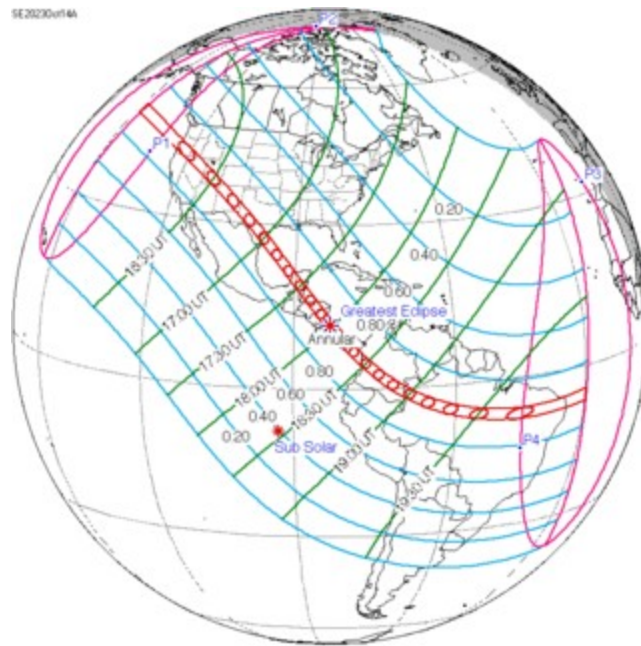
Sun	-----	RA = 16:59:36	Dec = -22°42'49"
Moon	-----	RA = 04:58:46	Dec = +25°01'02"
Mercury	-----	RA = 18:08:42	Dec = -25°43'50"
Venus	-----	RA = 17:49:26	Dec = -24°04'32"
Mars	-----	RA = 04:58:31	Dec = +24°59'28"
Jupiter	-----	RA = 23:59:05	Dec = -01°36'56"
Saturn	-----	RA = 21:32:39	Dec = -15°53'41"

Full Moon:

Thu 11:02 UT 08 Dec 2022

Sun	-----	RA = 17:00:35	Dec = -22°44'16"
Moon	-----	RA = 05:12:42	Dec = +25°13'21"
Mercury	-----	RA = 18:10:11	Dec = -25°43'46"
Venus	-----	RA = 17:50:40	Dec = -24°05'22"
Mars	-----	RA = 04:58:09	Dec = +24°59'20"
Jupiter	-----	RA = 23:59:08	Dec = -01°36'37"
Saturn	-----	RA = 21:32:39	Dec = -15°53'41"

The Solar Eclipse of Sat 14 Oct 2023



On Sat 14 Oct 2023 an Annular Solar Eclipse will sweep across the Contiguous United States from Northwest to Southeast as well as South America. In its passage across the United States, specifically the Western United States, it will be visible to the East of South. It will never be visible at "High Noon" anywhere within the United States. That "honor" will be reserved for Central America. Its path will intercept the path of the following Total Solar Eclipse of 08 Apr 2024, less than 6 months later, at Sabinal Canyon in Banderas County in the State of Texas.

The intercept with the path of the Total Solar Eclipse of 21 Aug 2017 has already been displayed. Here is the intercept data for the path of the intercept with the upcoming Total Solar Eclipse of 08 Apr 2024.

Interception of Lon $\approx -099^{\circ}34.2'$	Interception of Lat $\approx + 29^{\circ}46.8'$
Item = Annular Solar Eclipse	Item = Total Solar Eclipse
Date = 14 Oct 2023 UTC	Date = 08 Apr 2024 UTC
Time = 16:52:10 UTC	Time = 18:33:10 UTC
Lon = -099.57° [$-099^{\circ}34.2'$]	Lon = -099.57° [$-099^{\circ}34.2'$]
Lat = $+ 29.78^{\circ}$ [$+ 29^{\circ}46.8'$]	Lat = $+ 29.78^{\circ}$ [$+ 29^{\circ}46.8'$]
Dur = 289.48"	Dur = 266.08"
Alt = $+46.10^{\circ}$	Alt = $+67.80^{\circ}$
Azi = 146.10°	Azi = 175.60°



The image above is a NASA representation of the paths of the two eclipses and the general area of their mutual intercept.

What follows next are the Astrological/Astronomical summary as well as the tables defining the path of the Eclipse using a 10 second sampling. I have taken the liberty to clean up the data for a more general relevance.

The following is an astrological/astronomical profile of this Solar Eclipse.

Universal Clock Date = Sat 14 Oct 2023
 Universal Clock Time = 16:52
 Local Solar Time = 10:29
 Terrestrial Longitude = 099°34'W
 Terrestrial Latitude = 29°46'N
 Compass Azimuth of Sun = 146°06'
 Observed Altitude of Sun = +46°06'
 Apparent Diameter of Sun = 000°32'04"
 Apparent Diameter of Moon = 000°30'26"
 Maximum Totality = 00:04:50

	☉	☾	♀	♁	♂	♃	♅
♈							
♉						A11°01'30" +14°23'52"	
♊							
♋							
♌							
♍					A06°24'45" +08°35'18"		
♎	A19°28'45" -08°13'41"	A019°29'30" -08°14'07"	A16°17'00" -05°29'14"			A29°38'15" -11°51'39"	
♏							
♐							
♑							
♒							
♓							A03°33'30" -12°49'07"

Path of Annular Solar Eclipse of Sat 14 Oct 2023

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
16:13:10	-138.083	47.761	258.850	6.200	109.400
16:13:20	-137.171	47.563	259.510	6.800	110.200
16:13:30	-136.350	47.378	260.110	7.500	110.800
16:13:40	-135.598	47.203	260.640	8.000	111.400
16:13:50	-134.902	47.037	261.130	8.600	111.900
16:14:00	-134.251	46.878	261.600	9.000	112.400
16:14:10	-133.640	46.725	262.000	9.500	112.900
16:14:20	-133.062	46.577	262.370	10.000	113.400
16:14:30	-132.513	46.434	262.710	10.400	113.800
16:14:40	-131.990	46.294	263.040	10.800	114.200
16:14:50	-131.489	46.158	263.360	11.200	114.600
16:15:00	-131.008	46.025	263.670	11.600	115.000
16:15:10	-130.546	45.896	263.970	12.000	115.400
16:15:20	-130.101	45.768	264.270	12.300	115.700
16:15:30	-129.671	45.643	264.570	12.700	116.100
16:15:40	-129.256	45.521	264.850	13.000	116.400
16:15:50	-128.853	45.400	265.120	13.400	116.700
16:16:00	-128.462	45.282	265.390	13.700	117.100
16:16:10	-128.083	45.165	265.650	14.000	117.400
16:16:20	-127.714	45.050	265.910	14.300	117.700
16:16:30	-127.354	44.936	266.160	14.600	117.900
16:16:40	-127.004	44.824	266.430	14.900	118.200
16:16:50	-126.663	44.714	266.680	15.200	118.500
16:17:00	-126.330	44.605	266.920	15.500	118.800
16:17:10	-126.004	44.497	267.160	15.800	119.100
16:17:20	-125.686	44.390	267.390	16.000	119.300
16:17:30	-125.374	44.284	267.620	16.300	119.600
16:17:40	-125.070	44.180	267.850	16.600	119.800
16:17:50	-124.771	44.076	268.090	16.800	120.100
16:18:00	-124.479	43.974	268.320	17.100	120.300
16:18:10	-124.192	43.872	268.540	17.400	120.500
16:18:20	-123.908	43.771	268.750	17.600	120.800
16:18:30	-123.630	43.670	268.970	17.900	121.000
16:18:40	-123.351	43.568	269.190	18.100	121.200
16:18:50	-123.085	43.470	269.400	18.400	121.500
16:19:00	-122.810	43.367	269.640	18.600	121.700
16:19:10	-122.548	43.268	269.850	18.800	121.900
16:19:20	-122.272	43.162	270.070	19.100	122.100
16:19:30	-122.025	43.068	270.270	19.300	122.400
16:19:40	-121.791	42.978	270.460	19.500	122.600
16:19:50	-121.550	42.884	270.660	19.800	122.800
16:20:00	-121.303	42.787	270.870	20.000	123.000
16:20:10	-121.075	42.697	271.070	20.200	123.200
16:20:20	-120.836	42.601	271.280	20.400	123.400

Path of Annular Solar Eclipse of Sat 14 Oct 2023

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
16:22:30	-118.136	41.469	273.680	23.100	125.700
16:22:40	-117.944	41.385	273.820	23.300	125.900
16:22:50	-117.743	41.294	273.950	23.500	126.000
16:23:00	-117.567	41.216	274.070	23.600	126.200
16:23:10	-117.372	41.127	274.200	23.800	126.400
16:23:20	-117.199	41.050	274.310	24.000	126.500
16:23:30	-117.018	40.967	274.430	24.200	126.700
16:23:40	-116.835	40.883	274.560	24.400	126.900
16:23:50	-116.654	40.798	274.680	24.600	127.000
16:24:00	-116.487	40.722	274.800	24.700	127.200
16:24:10	-116.308	40.637	274.920	24.900	127.300
16:24:20	-116.142	40.559	275.040	25.100	127.500
16:24:30	-115.963	40.473	275.160	25.300	127.600
16:24:40	-115.800	40.396	275.270	25.400	127.800
16:24:50	-115.632	40.316	275.390	25.600	127.900
16:25:00	-115.469	40.237	275.510	25.800	128.100
16:25:10	-115.299	40.153	275.640	26.000	128.200
16:25:20	-115.142	40.077	275.750	26.100	128.400
16:25:30	-114.984	40.000	275.860	26.300	128.500
16:25:40	-114.829	39.924	275.970	26.500	128.700
16:25:50	-114.658	39.837	276.090	26.700	128.800
16:26:00	-114.513	39.766	276.200	26.800	129.000
16:26:10	-114.363	39.691	276.310	27.000	129.100
16:26:20	-114.207	39.611	276.430	27.100	129.300
16:26:30	-114.062	39.539	276.530	27.300	129.400
16:26:40	-113.918	39.466	276.640	27.500	129.500
16:26:50	-113.766	39.388	276.750	27.600	129.700
16:27:00	-113.622	39.313	276.860	27.800	129.800
16:27:10	-113.480	39.240	276.970	27.900	129.900
16:27:20	-113.324	39.158	277.090	28.100	130.100
16:27:30	-113.192	39.090	277.190	28.200	130.200
16:27:40	-113.050	39.015	277.300	28.400	130.300
16:22:30	-118.136	41.469	273.680	23.100	125.700
16:22:40	-117.944	41.385	273.820	23.300	125.900
16:22:50	-117.743	41.294	273.950	23.500	126.000
16:23:00	-117.567	41.216	274.070	23.600	126.200
16:23:10	-117.372	41.127	274.200	23.800	126.400
16:23:20	-117.199	41.050	274.310	24.000	126.500
16:23:30	-117.018	40.967	274.430	24.200	126.700
16:23:40	-116.835	40.883	274.560	24.400	126.900
16:23:50	-116.654	40.798	274.680	24.600	127.000
16:24:00	-116.487	40.722	274.800	24.700	127.200
16:24:10	-116.308	40.637	274.920	24.900	127.300
16:24:20	-116.142	40.559	275.040	25.100	127.500

Path of Annular Solar Eclipse of Sat 14 Oct 2023

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
16:27:50	-112.906	38.938	277.410	28.600	130.500
16:28:00	-112.769	38.866	277.510	28.700	130.600
16:28:10	-112.630	38.791	277.620	28.900	130.700
16:28:20	-112.483	38.711	277.730	29.000	130.900
16:28:30	-112.342	38.634	277.850	29.200	131.000
16:28:40	-112.218	38.568	277.950	29.300	131.100
16:28:50	-112.066	38.483	278.060	29.500	131.300
16:29:00	-111.946	38.419	278.160	29.600	131.400
16:29:10	-111.808	38.342	278.270	29.800	131.500
16:29:20	-111.679	38.271	278.370	29.900	131.700
16:29:30	-111.540	38.191	278.480	30.100	131.800
16:29:40	-111.409	38.118	278.590	30.300	131.900
16:29:50	-111.294	38.055	278.680	30.400	132.000
16:30:00	-111.175	37.990	278.780	30.500	132.200
16:30:10	-111.054	37.922	278.870	30.700	132.300
16:30:20	-110.927	37.849	278.980	30.800	132.400
16:30:30	-110.808	37.782	279.070	31.000	132.500
16:30:40	-110.686	37.712	279.170	31.100	132.600
16:30:50	-110.566	37.643	279.280	31.200	132.800
16:31:00	-110.441	37.570	279.380	31.400	132.900
16:31:10	-110.318	37.498	279.480	31.500	133.000
16:31:20	-110.202	37.430	279.580	31.700	133.100
16:31:30	-110.080	37.359	279.680	31.800	133.300
16:31:40	-109.961	37.288	279.780	32.000	133.400
16:31:50	-109.850	37.224	279.870	32.100	133.500
16:32:00	-109.734	37.155	279.980	32.200	133.600
16:32:10	-109.616	37.084	280.080	32.400	133.700
16:32:20	-109.501	37.015	280.170	32.500	133.800
16:32:30	-109.386	36.945	280.270	32.600	134.000
16:32:40	-109.270	36.874	280.370	32.800	134.100
16:32:50	-109.148	36.798	280.480	32.900	134.200
16:33:00	-109.049	36.740	280.560	33.000	134.300
16:33:10	-108.939	36.673	280.660	33.200	134.400
16:33:20	-108.829	36.606	280.760	33.300	134.500
16:33:30	-108.720	36.538	280.850	33.400	134.700
16:33:40	-108.612	36.471	280.950	33.600	134.800
16:33:50	-108.504	36.404	281.040	33.700	134.900
16:34:00	-108.395	36.336	281.140	33.800	135.000
16:34:10	-108.289	36.269	281.230	34.000	135.100
16:34:20	-108.182	36.202	281.330	34.100	135.200
16:34:30	-108.077	36.135	281.420	34.200	135.300
16:34:40	-107.972	36.069	281.520	34.400	135.400
16:34:50	-107.866	36.001	281.610	34.500	135.600
16:35:00	-107.763	35.934	281.700	34.600	135.700

Path of Annular Solar Eclipse of Sat 14 Oct 2023

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
16:35:10	-107.660	35.868	281.800	34.800	135.800
16:35:20	-107.559	35.803	281.880	34.900	135.900
16:35:30	-107.458	35.738	281.990	35.000	136.000
16:35:40	-107.359	35.674	282.080	35.100	136.100
16:35:50	-107.258	35.608	282.170	35.300	136.200
16:36:00	-107.160	35.544	282.260	35.400	136.300
16:36:10	-107.058	35.476	282.350	35.500	136.400
16:36:20	-106.963	35.414	282.440	35.600	136.500
16:36:30	-106.864	35.349	282.530	35.800	136.700
16:36:40	-106.769	35.286	282.610	35.900	136.800
16:36:50	-106.674	35.223	282.710	36.000	136.900
16:37:00	-106.578	35.158	282.800	36.100	137.000
16:37:10	-106.479	35.092	282.890	36.300	137.100
16:37:20	-106.382	35.025	282.980	36.400	137.200
16:37:30	-106.287	34.961	283.070	36.500	137.300
16:37:40	-106.195	34.899	283.160	36.600	137.400
16:37:50	-106.103	34.837	283.240	36.800	137.500
16:38:00	-106.010	34.773	283.340	36.900	137.600
16:38:10	-105.918	34.710	283.430	37.000	137.700
16:38:20	-105.826	34.647	283.510	37.100	137.800
16:38:30	-105.734	34.583	283.600	37.200	137.900
16:38:40	-105.643	34.520	283.690	37.400	138.000
16:38:50	-105.554	34.458	283.770	37.500	138.100
16:39:00	-105.463	34.394	283.860	37.600	138.200
16:39:10	-105.374	34.333	283.950	37.700	138.300
16:39:20	-105.286	34.271	284.040	37.800	138.500
16:39:30	-105.198	34.209	284.120	38.000	138.600
16:39:40	-105.111	34.148	284.200	38.100	138.700
16:39:50	-105.024	34.086	284.280	38.200	138.800
16:40:00	-104.938	34.025	284.350	38.300	138.900
16:40:10	-104.852	33.964	284.430	38.400	139.000
16:40:20	-104.766	33.902	284.510	38.500	139.100
16:40:30	-104.681	33.841	284.580	38.600	139.200
16:40:40	-104.596	33.780	284.660	38.800	139.300
16:40:50	-104.512	33.719	284.730	38.900	139.400
16:41:00	-104.428	33.659	284.800	39.000	139.500
16:41:10	-104.344	33.598	284.880	39.100	139.600
16:41:20	-104.260	33.536	284.950	39.200	139.700
16:41:30	-104.177	33.475	285.030	39.300	139.800
16:41:40	-104.094	33.414	285.110	39.400	139.900
16:41:50	-104.012	33.353	285.180	39.600	140.000
16:42:00	-103.930	33.293	285.250	39.700	140.100
16:42:10	-103.848	33.232	285.330	39.800	140.200
16:42:20	-103.766	33.171	285.400	39.900	140.300

Path of Annular Solar Eclipse of Sat 14 Oct 2023

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
16:42:30	-103.685	33.110	285.470	40.000	140.400
16:42:40	-103.605	33.051	285.550	40.100	140.500
16:42:50	-103.526	32.991	285.630	40.200	140.600
16:43:00	-103.446	32.931	285.700	40.300	140.700
16:43:10	-103.367	32.871	285.770	40.500	140.800
16:43:20	-103.289	32.812	285.840	40.600	140.900
16:43:30	-103.211	32.752	285.910	40.700	141.000
16:43:40	-103.133	32.693	285.980	40.800	141.100
16:43:50	-103.055	32.634	286.060	40.900	141.200
16:44:00	-102.978	32.575	286.130	41.000	141.300
16:44:10	-102.901	32.516	286.200	41.100	141.400
16:44:20	-102.825	32.456	286.270	41.200	141.500
16:44:30	-102.748	32.398	286.340	41.300	141.600
16:44:40	-102.673	32.339	286.410	41.400	141.700
16:44:50	-102.597	32.280	286.480	41.500	141.800
16:45:00	-102.522	32.221	286.560	41.600	141.900
16:45:10	-102.447	32.163	286.630	41.800	142.000
16:45:20	-102.373	32.104	286.700	41.900	142.100
16:45:30	-102.299	32.046	286.770	42.000	142.200
16:45:40	-102.225	31.988	286.840	42.100	142.300
16:45:50	-102.151	31.930	286.910	42.200	142.400
16:46:00	-102.078	31.871	286.970	42.300	142.500
16:46:10	-102.005	31.814	287.050	42.400	142.600
16:46:20	-101.933	31.755	287.120	42.500	142.700
16:46:30	-101.860	31.697	287.190	42.600	142.800
16:46:40	-101.788	31.640	287.260	42.700	142.900
16:46:50	-101.717	31.582	287.330	42.800	143.000
16:47:00	-101.645	31.524	287.400	42.900	143.100
16:47:10	-101.574	31.467	287.460	43.000	143.200
16:47:20	-101.504	31.409	287.540	43.100	143.300
16:47:30	-101.433	31.352	287.610	43.200	143.400
16:47:40	-101.363	31.295	287.670	43.300	143.500
16:47:50	-101.293	31.237	287.740	43.400	143.600
16:48:00	-101.223	31.180	287.810	43.500	143.700
16:48:10	-101.154	31.123	287.880	43.600	143.800
16:48:20	-101.085	31.066	287.940	43.700	143.900
16:48:30	-101.016	31.010	288.010	43.800	144.000
16:48:40	-100.948	30.953	288.090	43.900	144.100
16:48:50	-100.880	30.896	288.150	44.000	144.200
16:49:00	-100.812	30.840	288.220	44.100	144.300
16:49:10	-100.744	30.783	288.280	44.200	144.300
16:49:20	-100.677	30.727	288.350	44.300	144.400
16:49:30	-100.610	30.671	288.420	44.400	144.500
16:49:40	-100.543	30.614	288.480	44.500	144.600

Path of Annular Solar Eclipse of Sat 14 Oct 2023

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
16:49:50	-100.477	30.558	288.560	44.600	144.700
16:50:00	-100.411	30.502	288.620	44.700	144.800
16:50:10	-100.345	30.446	288.690	44.800	144.900
16:50:20	-100.279	30.390	288.750	44.900	145.000
16:50:30	-100.213	30.334	288.820	45.000	145.100
16:50:40	-100.148	30.278	288.880	45.100	145.200
16:50:50	-100.083	30.223	288.950	45.200	145.300
16:51:00	-100.018	30.167	289.020	45.300	145.400
16:51:10	-99.954	30.111	289.080	45.400	145.500
16:51:20	-99.889	30.056	289.150	45.500	145.600
16:51:30	-99.825	30.000	289.210	45.600	145.700
16:51:40	-99.762	29.945	289.280	45.700	145.800
16:51:50	-99.698	29.890	289.340	45.800	145.900
16:52:00	-99.635	29.835	289.400	45.900	146.000
16:52:10	-99.573	29.781	289.480	46.000	146.100
16:52:20	-99.510	29.725	289.540	46.100	146.200
16:52:30	-99.447	29.670	289.600	46.200	146.300
16:52:40	-99.385	29.616	289.670	46.300	146.400
16:52:50	-99.323	29.561	289.730	46.400	146.500
16:53:00	-99.262	29.507	289.790	46.500	146.600
16:53:10	-99.201	29.453	289.850	46.600	146.700
16:53:20	-99.139	29.399	289.920	46.700	146.800
16:53:30	-99.078	29.344	289.990	46.800	146.900
16:53:40	-99.017	29.289	290.050	46.900	147.000
16:53:50	-98.956	29.235	290.110	47.000	147.100
16:54:00	-98.896	29.181	290.170	47.100	147.200
16:54:10	-98.836	29.127	290.240	47.100	147.300
16:54:20	-98.776	29.073	290.300	47.200	147.400
16:54:30	-98.716	29.019	290.370	47.300	147.500
16:54:40	-98.656	28.965	290.430	47.400	147.600
16:54:50	-98.597	28.911	290.490	47.500	147.700
16:55:00	-98.538	28.857	290.550	47.600	147.800
16:55:10	-98.479	28.804	290.610	47.700	147.900
16:55:20	-98.420	28.750	290.680	47.800	148.000
16:55:30	-98.361	28.696	290.730	47.900	148.100
16:55:40	-98.303	28.643	290.810	48.000	148.200
16:55:50	-98.245	28.589	290.870	48.100	148.300
16:56:00	-98.187	28.536	290.930	48.200	148.400
16:56:10	-98.129	28.482	290.990	48.300	148.500
16:56:20	-98.071	28.429	291.050	48.300	148.600
16:56:30	-98.014	28.376	291.110	48.400	148.700
16:56:40	-97.956	28.322	291.170	48.500	148.800
16:56:50	-97.899	28.269	291.240	48.600	148.900
16:57:00	-97.842	28.216	291.300	48.700	149.000

Path of Annular Solar Eclipse of Sat 14 Oct 2023

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
16:57:10	-97.786	28.163	291.360	48.800	149.100
16:57:20	-97.729	28.110	291.420	48.900	149.200
16:57:30	-97.673	28.057	291.480	49.000	149.300
16:57:40	-97.617	28.005	291.530	49.100	149.400
16:57:50	-97.561	27.952	291.590	49.200	149.500
16:58:00	-97.505	27.899	291.660	49.200	149.600
16:58:10	-97.450	27.847	291.720	49.300	149.700
16:58:20	-97.394	27.794	291.780	49.400	149.800
16:58:30	-97.339	27.741	291.840	49.500	149.900
16:58:40	-97.284	27.689	291.900	49.600	150.000
16:58:50	-97.229	27.637	291.960	49.700	150.100
16:59:00	-97.174	27.584	292.010	49.800	150.200
16:59:10	-97.120	27.532	292.080	49.900	150.300
16:59:20	-97.065	27.480	292.140	50.000	150.400
16:59:30	-97.011	27.428	292.200	50.000	150.500
16:59:40	-96.957	27.375	292.260	50.100	150.600
16:59:50	-96.903	27.323	292.310	50.200	150.700
17:00:00	-96.850	27.271	292.370	50.300	150.800
17:00:10	-96.796	27.220	292.430	50.400	150.900
17:00:20	-96.743	27.168	292.480	50.500	151.000
17:00:30	-96.690	27.116	292.550	50.600	151.100
17:00:40	-96.637	27.064	292.610	50.600	151.200
17:00:50	-96.584	27.012	292.670	50.700	151.300
17:01:00	-96.531	26.961	292.720	50.800	151.400
17:01:10	-96.479	26.909	292.780	50.900	151.500
17:01:20	-96.426	26.858	292.840	51.000	151.600
17:01:30	-96.374	26.806	292.890	51.100	151.700
17:01:40	-96.322	26.755	292.960	51.200	151.800
17:01:50	-96.270	26.704	293.020	51.200	151.900
17:02:00	-96.218	26.652	293.070	51.300	152.000
17:02:10	-96.167	26.601	293.130	51.400	152.100
17:02:20	-96.115	26.550	293.180	51.500	152.200
17:02:30	-96.064	26.499	293.240	51.600	152.400
17:02:40	-96.013	26.448	293.290	51.700	152.500
17:02:50	-95.962	26.397	293.360	51.700	152.600
17:03:00	-95.911	26.346	293.420	51.800	152.700
17:03:10	-95.860	26.295	293.470	51.900	152.800
17:03:20	-95.810	26.244	293.520	52.000	152.900
17:03:30	-95.759	26.193	293.580	52.100	153.000
17:03:40	-95.709	26.143	293.630	52.200	153.100
17:03:50	-95.659	26.092	293.690	52.200	153.200
17:04:00	-95.609	26.041	293.760	52.300	153.300
17:04:10	-95.559	25.991	293.810	52.400	153.400
17:04:20	-95.509	25.940	293.870	52.500	153.500

Path of Annular Solar Eclipse of Sat 14 Oct 2023

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
17:04:30	-95.460	25.890	293.920	52.600	153.600
17:04:40	-95.410	25.839	293.970	52.600	153.700
17:04:50	-95.361	25.789	294.030	52.700	153.800
17:05:00	-95.312	25.739	294.080	52.800	153.900
17:05:10	-95.263	25.689	294.150	52.900	154.000
17:05:20	-95.214	25.638	294.200	53.000	154.200
17:05:30	-95.165	25.588	294.250	53.100	154.300
17:05:40	-95.117	25.538	294.300	53.100	154.400
17:05:50	-95.068	25.488	294.360	53.200	154.500
17:06:00	-95.020	25.438	294.410	53.300	154.600
17:06:10	-94.972	25.388	294.470	53.400	154.700
17:06:20	-94.924	25.338	294.530	53.500	154.800
17:06:30	-94.876	25.289	294.580	53.500	154.900
17:06:40	-94.828	25.239	294.630	53.600	155.000
17:06:50	-94.780	25.189	294.690	53.700	155.100
17:07:00	-94.733	25.139	294.740	53.800	155.200
17:07:10	-94.685	25.090	294.790	53.800	155.300
17:07:20	-94.638	25.040	294.840	53.900	155.500
17:07:30	-94.591	24.991	294.910	54.000	155.600
17:07:40	-94.544	24.941	294.960	54.100	155.700
17:07:50	-94.497	24.892	295.010	54.200	155.800
17:08:00	-94.450	24.843	295.060	54.200	155.900
17:08:10	-94.403	24.793	295.110	54.300	156.000
17:08:20	-94.356	24.744	295.170	54.400	156.100
17:08:30	-94.310	24.695	295.220	54.500	156.200
17:08:40	-94.264	24.646	295.280	54.600	156.300
17:08:50	-94.217	24.596	295.330	54.600	156.500
17:09:00	-94.171	24.547	295.380	54.700	156.600
17:09:10	-94.125	24.498	295.430	54.800	156.700
17:09:20	-94.079	24.449	295.480	54.900	156.800
17:09:30	-94.034	24.400	295.530	54.900	156.900
17:09:40	-93.988	24.352	295.580	55.000	157.000
17:09:50	-93.942	24.303	295.640	55.100	157.100
17:10:00	-93.897	24.254	295.700	55.200	157.200
17:10:10	-93.852	24.205	295.750	55.200	157.400
17:10:20	-93.806	24.157	295.800	55.300	157.500
17:10:30	-93.761	24.108	295.850	55.400	157.600
17:10:40	-93.716	24.059	295.890	55.500	157.700
17:10:50	-93.671	24.011	295.950	55.500	157.800
17:11:00	-93.627	23.962	296.010	55.600	157.900
17:11:10	-93.582	23.914	296.060	55.700	158.100
17:11:20	-93.537	23.865	296.100	55.800	158.200
17:11:30	-93.493	23.817	296.160	55.800	158.300
17:11:40	-93.448	23.769	296.200	55.900	158.400

Path of Annular Solar Eclipse of Sat 14 Oct 2023

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
17:11:50	-93.404	23.721	296.250	56.000	158.500
17:12:00	-93.360	23.672	296.300	56.100	158.600
17:12:10	-93.316	23.624	296.340	56.100	158.800
17:12:20	-93.272	23.576	296.400	56.200	158.900
17:12:30	-93.228	23.528	296.440	56.300	159.000
17:12:40	-93.184	23.480	296.490	56.300	159.100
17:12:50	-93.141	23.432	296.530	56.400	159.200
17:13:00	-93.097	23.384	296.580	56.500	159.300
17:13:10	-93.054	23.336	296.620	56.600	159.500
17:13:20	-93.010	23.288	296.660	56.600	159.600
17:13:30	-92.967	23.240	296.720	56.700	159.700
17:13:40	-92.924	23.193	296.760	56.800	159.800
17:13:50	-92.881	23.145	296.810	56.900	159.900
17:14:00	-92.838	23.097	296.850	56.900	160.100
17:14:10	-92.795	23.049	296.890	57.000	160.200
17:14:20	-92.752	23.002	296.940	57.100	160.300
17:14:30	-92.710	22.954	296.980	57.100	160.400
17:14:40	-92.667	22.907	297.030	57.200	160.500
17:14:50	-92.624	22.859	297.080	57.300	160.700
17:15:00	-92.582	22.812	297.120	57.300	160.800
17:15:10	-92.540	22.765	297.160	57.400	160.900
17:15:20	-92.497	22.717	297.210	57.500	161.000
17:15:30	-92.455	22.670	297.250	57.600	161.200
17:15:40	-92.413	22.623	297.290	57.600	161.300
17:15:50	-92.371	22.575	297.340	57.700	161.400
17:16:00	-92.329	22.528	297.390	57.800	161.500
17:16:10	-92.288	22.481	297.430	57.800	161.700
17:16:20	-92.246	22.434	297.470	57.900	161.800
17:16:30	-92.204	22.387	297.510	58.000	161.900
17:16:40	-92.163	22.340	297.550	58.000	162.000
17:16:50	-92.121	22.293	297.600	58.100	162.200
17:17:00	-92.080	22.246	297.650	58.200	162.300
17:17:10	-92.039	22.199	297.690	58.200	162.400
17:17:20	-91.998	22.152	297.730	58.300	162.500
17:17:30	-91.956	22.106	297.770	58.400	162.700
17:17:40	-91.915	22.059	297.820	58.400	162.800
17:17:50	-91.874	22.012	297.860	58.500	162.900
17:18:00	-91.834	21.965	297.900	58.600	163.000
17:18:10	-91.793	21.919	297.950	58.700	163.200
17:18:20	-91.752	21.872	297.990	58.700	163.300
17:18:30	-91.711	21.826	298.030	58.800	163.400
17:18:40	-91.671	21.779	298.070	58.800	163.600
17:18:50	-91.630	21.733	298.120	58.900	163.700
17:19:00	-91.590	21.686	298.160	59.000	163.800

Path of Annular Solar Eclipse of Sat 14 Oct 2023

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
17:19:10	-91.550	21.640	298.200	59.000	164.000
17:19:20	-91.510	21.593	298.250	59.100	164.100
17:19:30	-91.469	21.547	298.290	59.200	164.200
17:19:40	-91.429	21.501	298.330	59.200	164.300
17:19:50	-91.389	21.455	298.370	59.300	164.500
17:20:00	-91.349	21.408	298.410	59.400	164.600
17:20:10	-91.309	21.362	298.450	59.400	164.700
17:20:20	-91.270	21.316	298.490	59.500	164.900
17:20:30	-91.230	21.270	298.540	59.600	165.000
17:20:40	-91.190	21.224	298.580	59.600	165.100
17:20:50	-91.151	21.178	298.620	59.700	165.300
17:21:00	-91.111	21.132	298.660	59.800	165.400
17:21:10	-91.072	21.086	298.700	59.800	165.600
17:21:20	-91.033	21.040	298.730	59.900	165.700
17:21:30	-90.993	20.994	298.770	59.900	165.800
17:21:40	-90.954	20.949	298.800	60.000	166.000
17:21:50	-90.915	20.903	298.840	60.100	166.100
17:22:00	-90.876	20.857	298.870	60.100	166.200
17:22:10	-90.837	20.811	298.900	60.200	166.400
17:22:20	-90.798	20.766	298.940	60.300	166.500
17:22:30	-90.759	20.720	298.970	60.300	166.600
17:22:40	-90.720	20.675	299.010	60.400	166.800
17:22:50	-90.681	20.629	299.040	60.400	166.900
17:23:00	-90.643	20.583	299.080	60.500	167.100
17:23:10	-90.604	20.538	299.110	60.600	167.200
17:23:20	-90.566	20.493	299.140	60.600	167.300
17:23:30	-90.527	20.447	299.180	60.700	167.500
17:23:40	-90.489	20.402	299.210	60.700	167.600
17:23:50	-90.450	20.356	299.240	60.800	167.800
17:24:00	-90.412	20.311	299.280	60.900	167.900
17:24:10	-90.374	20.266	299.310	60.900	168.100
17:24:20	-90.336	20.221	299.350	61.000	168.200
17:24:30	-90.298	20.175	299.380	61.000	168.300
17:24:40	-90.260	20.130	299.410	61.100	168.500
17:24:50	-90.222	20.085	299.450	61.200	168.600
17:25:00	-90.184	20.040	299.480	61.200	168.800
17:25:10	-90.146	19.995	299.520	61.300	168.900
17:25:20	-90.108	19.950	299.550	61.300	169.100
17:25:30	-90.070	19.905	299.580	61.400	169.200
17:25:40	-90.033	19.860	299.610	61.500	169.400
17:25:50	-89.995	19.815	299.650	61.500	169.500
17:26:00	-89.958	19.770	299.680	61.600	169.600
17:26:10	-89.920	19.726	299.710	61.600	169.800
17:26:20	-89.883	19.681	299.750	61.700	169.900

Path of Annular Solar Eclipse of Sat 14 Oct 2023

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
17:26:30	-89.845	19.636	299.780	61.700	170.100
17:26:40	-89.808	19.591	299.810	61.800	170.200
17:26:50	-89.771	19.547	299.850	61.900	170.400
17:27:00	-89.734	19.502	299.880	61.900	170.500
17:27:10	-89.696	19.457	299.910	62.000	170.700
17:27:20	-89.659	19.413	299.940	62.000	170.800
17:27:30	-89.622	19.368	299.980	62.100	171.000
17:27:40	-89.585	19.324	300.010	62.100	171.100
17:27:50	-89.548	19.279	300.040	62.200	171.300
17:28:00	-89.511	19.235	300.080	62.200	171.400
17:28:10	-89.475	19.190	300.110	62.300	171.600
17:28:20	-89.438	19.146	300.140	62.400	171.800
17:28:30	-89.401	19.102	300.170	62.400	171.900

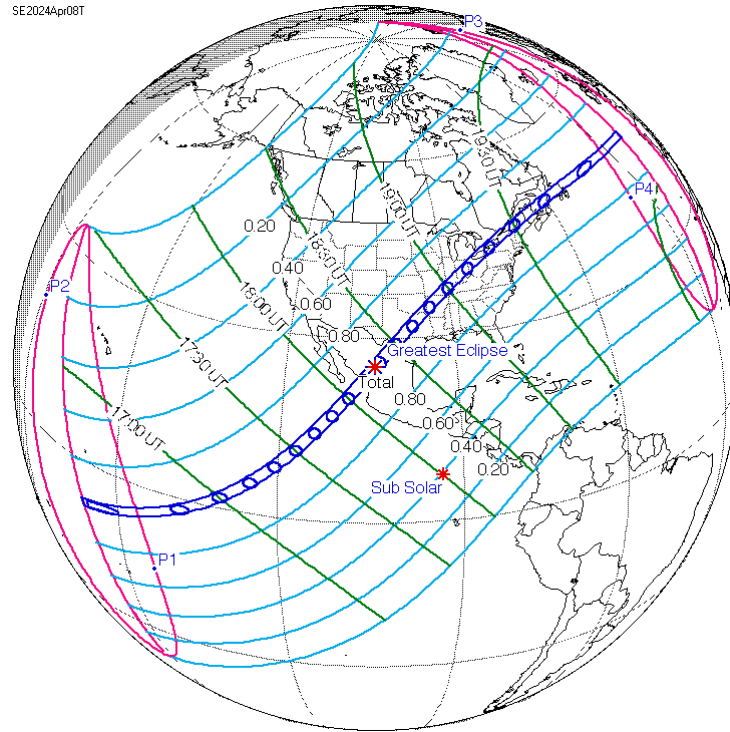
The question of "How" is always of critical importance. How was the Astrological/Astronomical data obtained? It was obtained from a computer astronomical simulation software suite called [RedShift 3]. How was the Local Solar Time obtained? The latter was obtained using the following computer program. Please note that the output is with respect to the time that the Celestial object stands at Zenith, in the case of the Sun, High Noon. There are two solutions!

```

REM Liberty BASIC v4.03 Program
REM SunTime.bas
REM cos(a) = cos(b) * cos(c) + sin(b) * sin(c) * cos(d)
REM p = cos(b) * cos(c)
REM q = sin(b) * sin(c)
REM a = altitude with respect to a point directly overhead.
REM b = latitude with respect to Terrestrial North Pole.
REM c = declination with respect to Celestial North Pole.
REM d = time angle with respect to zenith.
REM cos(a) = p + q * cos(d).
REM cos(d) = (cos(a) - p)/q.
REM d = acs((cos(a) - p)/q).
REM Two Solutions. Use Judgement.
LET pi = 3.14159
PRINT "For the entries, North and Up are positive."
PRINT "For the entries, South and Dn are negative."
INPUT "Enter Lat in deg with respect to Equator: "; lat
INPUT "Enter Dec in deg with respect to Equator: "; dec
INPUT "Enter Alt in deg with respect to Horizon: "; alt
LET a = (90 - alt) * (pi/180)
LET b = (90 - lat) * (pi/180)
LET c = (90 - dec) * (pi/180)
LET p = cos(b) * cos(c)
LET q = sin(b) * sin(c)
LET d = acs((cos(a) - p)/q)
LET h = d * (12/pi)
PRINT "Local Solar Time = (+/-)"; h; " hours from High Noon."

```



















The Solar Eclipse of Mon 08 Apr 2024



The Great American Solar Eclipse of 08 Apr 2024 will act as a complement to the two Great American Solar Eclipses of 21 Aug 2017 and of 14 Oct 2023. During this seven year period there will have been two significant Lunar Eclipses and three significant solar eclipses. The centerpiece will have been the 21 Dec 2020 Great Conjunction of Jupiter and Saturn. Observe that this Solar Eclipse will represent the first day of the Lunar Year with respect to the Spring Equinox. Likewise the preceding Solar Eclipse of 14 Oct 2023 six months earlier will have represented the first day of the Lunar Year with respect to the Autumnal Equinox. No one in their right mind ever indexed a Lunar year to a Solstice!

Here we have the Astrological/Astronomical data for this Solar Eclipse. This data is for when the Sun is at Zenith for the corresponding longitude. This location is just South of Marble Falls, Texas and a little West of Austin, Texas.

Universal Clock Date = Mon 08 Apr 2024
 Universal Clock Time = 18:35
 Local Solar Time = 12:00
 Terrestrial Longitude = 098°20'W
 Terrestrial Latitude = 30°25'N
 Compass Azimuth of Sun = 180°01'
 Observed Altitude of Sun = +67°11'
 Apparent Diameter of Sun = 000°31'56"
 Apparent Diameter of Moon = 000°33'46"
 Maximum Totality = 00:04:06

							
	A17°55'00" +07°35'44"	A17°53'30" +07°35'53"	A16°05'45" +12°14'09"	A04°41'30" +00°23'58"			
						A16°47'45" +16°42'46"	
							
							
							
							
							
							
							
							
							
					A14°52'15" -07°48'15"		A16°20'30" -07°40'16"

Path of Total Solar Eclipse of Mon 08 Apr 2024

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
18:09:40	-106.222	23.097	266.800	69.300	136.400
18:09:50	-106.178	23.145	266.840	69.400	136.700
18:10:00	-106.133	23.192	266.880	69.400	136.900
18:10:10	-106.088	23.239	266.920	69.400	137.200
18:10:20	-106.044	23.288	266.940	69.400	137.500
18:10:30	-105.999	23.335	266.980	69.400	137.800
18:10:40	-105.954	23.382	267.010	69.500	138.000
18:10:50	-105.909	23.430	267.050	69.500	138.300
18:11:00	-105.862	23.475	267.120	69.500	138.600
18:11:10	-105.818	23.523	267.140	69.500	138.900
18:11:20	-105.774	23.571	267.170	69.500	139.100
18:11:30	-105.728	23.619	267.200	69.500	139.400
18:11:40	-105.682	23.664	267.250	69.600	139.700
18:11:50	-105.636	23.711	267.300	69.600	140.000
18:12:00	-105.591	23.758	267.330	69.600	140.300
18:12:10	-105.546	23.806	267.360	69.600	140.500
18:12:20	-105.502	23.854	267.380	69.600	140.800
18:12:30	-105.457	23.902	267.400	69.600	141.100
18:12:40	-105.413	23.950	267.430	69.600	141.400
18:12:50	-105.368	23.997	267.450	69.600	141.700
18:13:00	-105.323	24.045	267.480	69.700	142.000
18:13:10	-105.278	24.092	267.510	69.700	142.200
18:13:20	-105.233	24.140	267.530	69.700	142.500
18:13:30	-105.188	24.188	267.550	69.700	142.800
18:13:40	-105.143	24.235	267.570	69.700	143.100
18:13:50	-105.098	24.283	267.590	69.700	143.400
18:14:00	-105.053	24.330	267.610	69.700	143.700
18:14:10	-105.007	24.377	267.650	69.700	143.900
18:14:20	-104.963	24.425	267.650	69.700	144.200
18:14:30	-104.918	24.473	267.670	69.700	144.500
18:14:40	-104.873	24.522	267.680	69.700	144.800
18:14:50	-104.828	24.570	267.700	69.800	145.100
18:15:00	-104.783	24.617	267.720	69.800	145.400
18:15:10	-104.738	24.665	267.720	69.800	145.600
18:15:20	-104.692	24.713	267.740	69.800	145.900
18:15:30	-104.647	24.760	267.750	69.800	146.200
18:15:40	-104.602	24.808	267.770	69.800	146.500
18:15:50	-104.557	24.856	267.780	69.800	146.800
18:16:00	-104.512	24.904	267.790	69.800	147.100
18:16:10	-104.466	24.951	267.800	69.800	147.400
18:16:20	-104.420	24.998	267.820	69.800	147.700
18:16:30	-104.375	25.046	267.830	69.800	147.900
18:16:40	-104.329	25.094	267.830	69.800	148.200
18:16:50	-104.284	25.142	267.840	69.800	148.500

Path of Total Solar Eclipse of Mon 08 Apr 2024

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
18:17:00	-104.238	25.189	267.860	69.800	148.800
18:17:10	-104.193	25.237	267.860	69.800	149.100
18:17:20	-104.147	25.285	267.870	69.800	149.400
18:17:30	-104.102	25.332	267.880	69.800	149.700
18:17:40	-104.055	25.379	267.890	69.800	150.000
18:17:50	-104.009	25.427	267.900	69.800	150.200
18:18:00	-103.964	25.474	267.910	69.800	150.500
18:18:10	-103.917	25.521	267.930	69.800	150.800
18:18:20	-103.871	25.567	267.940	69.800	151.100
18:18:30	-103.826	25.617	267.920	69.800	151.400
18:18:40	-103.780	25.665	267.920	69.800	151.700
18:18:50	-103.734	25.712	267.930	69.800	152.000
18:19:00	-103.687	25.758	267.950	69.800	152.300
18:19:10	-103.642	25.808	267.920	69.800	152.500
18:19:20	-103.596	25.855	267.930	69.800	152.800
18:19:30	-103.550	25.903	267.930	69.700	153.100
18:19:40	-103.503	25.950	267.930	69.700	153.400
18:19:50	-103.457	25.998	267.930	69.700	153.700
18:20:00	-103.411	26.045	267.930	69.700	154.000
18:20:10	-103.364	26.093	267.930	69.700	154.300
18:20:20	-103.318	26.140	267.930	69.700	154.600
18:20:30	-103.271	26.186	267.940	69.700	154.800
18:20:40	-103.224	26.234	267.940	69.700	155.100
18:20:50	-103.178	26.282	267.930	69.700	155.400
18:21:00	-103.131	26.330	267.920	69.700	155.700
18:21:10	-103.085	26.377	267.910	69.700	156.000
18:21:20	-103.038	26.425	267.910	69.600	156.300
18:21:30	-102.990	26.470	267.930	69.600	156.600
18:21:40	-102.943	26.517	267.920	69.600	156.900
18:21:50	-102.897	26.565	267.910	69.600	157.100
18:22:00	-102.850	26.613	267.900	69.600	157.400
18:22:10	-102.803	26.659	267.900	69.600	157.700
18:22:20	-102.756	26.708	267.880	69.600	158.000
18:22:30	-102.709	26.755	267.870	69.600	158.300
18:22:40	-102.662	26.803	267.860	69.500	158.600
18:22:50	-102.614	26.849	267.860	69.500	158.800
18:23:00	-102.568	26.898	267.840	69.500	159.100
18:23:10	-102.520	26.945	267.830	69.500	159.400
18:23:20	-102.473	26.992	267.820	69.500	159.700
18:23:30	-102.424	27.036	267.850	69.500	160.000
18:23:40	-102.378	27.086	267.800	69.400	160.300
18:23:50	-102.331	27.135	267.770	69.400	160.500
18:24:00	-102.283	27.183	267.760	69.400	160.800
18:24:10	-102.236	27.230	267.740	69.400	161.100

Path of Total Solar Eclipse of Mon 08 Apr 2024

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
18:24:20	-102.188	27.277	267.730	69.400	161.400
18:24:30	-102.140	27.325	267.710	69.400	161.700
18:24:40	-102.092	27.372	267.700	69.300	162.000
18:24:50	-102.044	27.419	267.680	69.300	162.200
18:25:00	-101.996	27.465	267.680	69.300	162.500
18:25:10	-101.948	27.512	267.660	69.300	162.800
18:25:20	-101.901	27.561	267.630	69.200	163.100
18:25:30	-101.853	27.609	267.600	69.200	163.300
18:25:40	-101.805	27.656	267.580	69.200	163.600
18:25:50	-101.757	27.704	267.560	69.200	163.900
18:26:00	-101.708	27.751	267.540	69.200	164.200
18:26:10	-101.660	27.798	267.520	69.100	164.500
18:26:20	-101.612	27.846	267.500	69.100	164.700
18:26:30	-101.564	27.894	267.460	69.100	165.000
18:26:40	-101.515	27.941	267.440	69.100	165.300
18:26:50	-101.467	27.989	267.410	69.000	165.600
18:27:00	-101.418	28.036	267.390	69.000	165.800
18:27:10	-101.369	28.083	267.360	69.000	166.100
18:27:20	-101.320	28.131	267.330	68.900	166.400
18:27:30	-101.272	28.178	267.310	68.900	166.700
18:27:40	-101.223	28.225	267.290	68.900	166.900
18:27:50	-101.174	28.272	267.260	68.900	167.200
18:28:00	-101.125	28.319	267.230	68.800	167.500
18:28:10	-101.076	28.367	267.200	68.800	167.700
18:28:20	-101.027	28.414	267.170	68.800	168.000
18:28:30	-100.977	28.462	267.140	68.700	168.300
18:28:40	-100.928	28.509	267.110	68.700	168.500
18:28:50	-100.879	28.556	267.080	68.700	168.800
18:29:00	-100.829	28.603	267.050	68.700	169.100
18:29:10	-100.780	28.651	267.010	68.600	169.400
18:29:20	-100.730	28.698	266.980	68.600	169.600
18:29:30	-100.681	28.745	266.950	68.600	169.900
18:29:40	-100.631	28.792	266.910	68.500	170.100
18:29:50	-100.581	28.840	266.880	68.500	170.400
18:30:00	-100.531	28.887	266.850	68.500	170.700
18:30:10	-100.482	28.934	266.810	68.400	170.900
18:30:20	-100.432	28.981	266.770	68.400	171.200
18:30:30	-100.381	29.028	266.740	68.400	171.500
18:30:40	-100.331	29.076	266.700	68.300	171.700
18:30:50	-100.281	29.123	266.660	68.300	172.000
18:31:00	-100.231	29.170	266.620	68.300	172.300
18:31:10	-100.180	29.217	266.590	68.200	172.500
18:31:20	-100.130	29.264	266.550	68.200	172.800
18:31:30	-100.080	29.311	266.510	68.100	173.000

Path of Total Solar Eclipse of Mon 08 Apr 2024

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
18:31:40	-100.029	29.358	266.470	68.100	173.300
18:31:50	-99.978	29.406	266.420	68.100	173.500
18:32:00	-99.928	29.452	266.390	68.000	173.800
18:32:10	-99.877	29.499	266.350	68.000	174.100
18:32:20	-99.826	29.547	266.310	68.000	174.300
18:32:30	-99.775	29.594	266.260	67.900	174.600
18:32:40	-99.724	29.641	266.220	67.900	174.800
18:32:50	-99.673	29.688	266.180	67.800	175.100
18:33:00	-99.621	29.735	266.130	67.800	175.300
18:33:10	-99.570	29.782	266.080	67.800	175.600
18:33:20	-99.519	29.829	266.040	67.700	175.800
18:33:30	-99.467	29.876	265.990	67.700	176.100
18:33:40	-99.416	29.923	265.950	67.600	176.300
18:33:50	-99.364	29.970	265.900	67.600	176.600
18:34:00	-99.312	30.017	265.850	67.500	176.800
18:34:10	-99.261	30.065	265.800	67.500	177.100
18:34:20	-99.209	30.112	265.740	67.500	177.300
18:34:30	-99.157	30.159	265.690	67.400	177.600
18:34:40	-99.105	30.206	265.640	67.400	177.800
18:34:50	-99.053	30.253	265.590	67.300	178.100
18:35:00	-99.000	30.300	265.540	67.300	178.300
18:35:10	-98.948	30.347	265.490	67.200	178.600
18:35:20	-98.896	30.394	265.430	67.200	178.800
18:35:30	-98.843	30.442	265.380	67.200	179.000
18:35:40	-98.791	30.489	265.320	67.100	179.300
18:35:50	-98.738	30.536	265.260	67.100	179.500
18:36:00	-98.685	30.584	265.210	67.000	179.800
18:36:10	-98.632	30.630	265.150	67.000	180.000
18:36:20	-98.580	30.678	265.090	66.900	180.200
18:36:30	-98.527	30.725	265.030	66.900	180.500
18:36:40	-98.473	30.772	264.970	66.800	180.700
18:36:50	-98.420	30.819	264.910	66.800	181.000
18:37:00	-98.367	30.866	264.860	66.700	181.200
18:37:10	-98.313	30.913	264.800	66.700	181.400
18:37:20	-98.260	30.960	264.740	66.600	181.700
18:37:30	-98.206	31.007	264.670	66.600	181.900
18:37:40	-98.153	31.054	264.610	66.500	182.100
18:37:50	-98.099	31.102	264.550	66.500	182.400
18:38:00	-98.045	31.149	264.480	66.400	182.600
18:38:10	-97.991	31.196	264.420	66.400	182.800
18:38:20	-97.937	31.243	264.360	66.300	183.100
18:38:30	-97.883	31.290	264.290	66.300	183.300
18:38:40	-97.829	31.337	264.230	66.200	183.500
18:38:50	-97.774	31.384	264.160	66.200	183.700

Path of Total Solar Eclipse of Mon 08 Apr 2024

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
18:39:00	-97.720	31.431	264.090	66.100	184.000
18:39:10	-97.665	31.478	264.020	66.100	184.200
18:39:20	-97.610	31.525	263.960	66.000	184.400
18:39:30	-97.556	31.572	263.890	66.000	184.700
18:39:40	-97.501	31.619	263.820	65.900	184.900
18:39:50	-97.446	31.667	263.750	65.900	185.100
18:40:00	-97.391	31.713	263.670	65.800	185.300
18:40:10	-97.335	31.760	263.600	65.700	185.600
18:40:20	-97.280	31.808	263.530	65.700	185.800
18:40:30	-97.225	31.855	263.430	65.600	186.000
18:40:40	-97.169	31.901	263.360	65.600	186.200
18:40:50	-97.113	31.948	263.290	65.500	186.400
18:41:00	-97.058	31.995	263.220	65.500	186.700
18:41:10	-97.002	32.042	263.140	65.400	186.900
18:41:20	-96.946	32.089	263.060	65.400	187.100
18:41:30	-96.890	32.136	262.990	65.300	187.300
18:41:40	-96.834	32.183	262.920	65.200	187.500
18:41:50	-96.777	32.230	262.840	65.200	187.800
18:42:00	-96.721	32.277	262.760	65.100	188.000
18:42:10	-96.664	32.324	262.680	65.100	188.200
18:42:20	-96.608	32.371	262.600	65.000	188.400
18:42:30	-96.551	32.418	262.520	64.900	188.600
18:42:40	-96.494	32.465	262.440	64.900	188.800
18:42:50	-96.437	32.512	262.360	64.800	189.000
18:43:00	-96.380	32.559	262.310	64.800	189.200
18:43:10	-96.323	32.606	262.220	64.700	189.500
18:43:20	-96.265	32.653	262.140	64.600	189.700
18:43:30	-96.208	32.700	262.060	64.600	189.900
18:43:40	-96.150	32.747	261.980	64.500	190.100
18:43:50	-96.093	32.794	261.890	64.500	190.300
18:44:00	-96.035	32.841	261.810	64.400	190.500
18:44:10	-95.977	32.888	261.710	64.300	190.700
18:44:20	-95.919	32.934	261.620	64.300	190.900
18:44:30	-95.861	32.981	261.540	64.200	191.100
18:44:40	-95.802	33.028	261.450	64.200	191.300
18:44:50	-95.744	33.075	261.360	64.100	191.500
18:45:00	-95.685	33.122	261.270	64.000	191.700
18:45:10	-95.627	33.169	261.180	64.000	191.900
18:45:20	-95.568	33.216	261.110	63.900	192.100
18:45:30	-95.509	33.263	261.020	63.800	192.400
18:45:40	-95.450	33.310	260.930	63.800	192.600
18:45:50	-95.391	33.357	260.840	63.700	192.800
18:46:00	-95.331	33.403	260.750	63.700	193.000
18:46:10	-95.272	33.450	260.660	63.600	193.200

Path of Total Solar Eclipse of Mon 08 Apr 2024

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
18:46:20	-95.212	33.497	260.560	63.500	193.400
18:46:30	-95.153	33.544	260.480	63.500	193.600
18:46:40	-95.093	33.591	260.380	63.400	193.800
18:46:50	-95.033	33.638	260.290	63.300	194.000
18:47:00	-94.973	33.685	260.190	63.300	194.100
18:47:10	-94.912	33.731	260.100	63.200	194.300
18:47:20	-94.852	33.778	260.000	63.100	194.500
18:47:30	-94.792	33.825	259.900	63.100	194.700
18:47:40	-94.731	33.872	259.810	63.000	194.900
18:47:50	-94.670	33.919	259.710	62.900	195.100
18:48:00	-94.609	33.966	259.610	62.900	195.300
18:48:10	-94.548	34.012	259.510	62.800	195.500
18:48:20	-94.487	34.059	259.410	62.700	195.700
18:48:30	-94.426	34.106	259.310	62.700	195.900
18:48:40	-94.364	34.152	259.210	62.600	196.100
18:48:50	-94.303	34.199	259.100	62.500	196.300
18:49:00	-94.241	34.246	258.990	62.400	196.500
18:49:10	-94.179	34.293	258.880	62.400	196.700
18:49:20	-94.117	34.339	258.770	62.300	196.800
18:49:30	-94.055	34.385	258.660	62.200	197.000
18:49:40	-93.993	34.432	258.550	62.200	197.200
18:49:50	-93.930	34.479	258.430	62.100	197.400
18:50:00	-93.867	34.526	258.320	62.000	197.600
18:50:10	-93.805	34.573	258.200	62.000	197.800
18:50:20	-93.741	34.620	258.080	61.900	198.000
18:50:30	-93.678	34.667	257.970	61.800	198.200
18:50:40	-93.615	34.713	257.850	61.700	198.300
18:50:50	-93.552	34.760	257.730	61.700	198.500
18:51:00	-93.488	34.807	257.610	61.600	198.700
18:51:10	-93.424	34.854	257.490	61.500	198.900
18:51:20	-93.361	34.900	257.370	61.500	199.100
18:51:30	-93.296	34.948	257.250	61.400	199.300
18:51:40	-93.232	34.994	257.130	61.300	199.400
18:51:50	-93.168	35.041	257.000	61.200	199.600
18:52:00	-93.103	35.088	256.880	61.200	199.800
18:52:10	-93.038	35.135	256.760	61.100	200.000
18:52:20	-92.974	35.181	256.660	61.000	200.200
18:52:30	-92.909	35.228	256.540	60.900	200.300
18:52:40	-92.843	35.275	256.410	60.900	200.500
18:52:50	-92.778	35.321	256.290	60.800	200.700
18:53:00	-92.713	35.368	256.170	60.700	200.900
18:53:10	-92.647	35.414	256.040	60.600	201.100
18:53:20	-92.581	35.461	255.910	60.600	201.200
18:53:30	-92.516	35.507	255.820	60.500	201.400

Path of Total Solar Eclipse of Mon 08 Apr 2024

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
18:53:40	-92.449	35.554	255.690	60.400	201.600
18:53:50	-92.383	35.601	255.560	60.300	201.800
18:54:00	-92.316	35.648	255.430	60.300	201.900
18:54:10	-92.250	35.694	255.300	60.200	202.100
18:54:20	-92.183	35.740	255.170	60.100	202.300
18:54:30	-92.116	35.787	255.040	60.000	202.500
18:54:40	-92.049	35.834	254.900	60.000	202.600
18:54:50	-91.981	35.881	254.800	59.900	202.800
18:55:00	-91.914	35.927	254.670	59.800	203.000
18:55:10	-91.846	35.974	254.540	59.700	203.200
18:55:20	-91.778	36.020	254.400	59.700	203.300
18:55:30	-91.710	36.067	254.260	59.600	203.500
18:55:40	-91.642	36.114	254.130	59.500	203.700
18:55:50	-91.574	36.160	253.990	59.400	203.800
18:56:00	-91.505	36.207	253.890	59.300	204.000
18:56:10	-91.436	36.254	253.750	59.300	204.200
18:56:20	-91.367	36.300	253.610	59.200	204.400
18:56:30	-91.298	36.347	253.470	59.100	204.500
18:56:40	-91.229	36.393	253.330	59.000	204.700
18:56:50	-91.159	36.440	253.180	58.900	204.900
18:57:00	-91.089	36.486	253.050	58.900	205.000
18:57:10	-91.019	36.533	252.940	58.800	205.200
18:57:20	-90.949	36.579	252.790	58.700	205.400
18:57:30	-90.879	36.626	252.650	58.600	205.500
18:57:40	-90.809	36.672	252.510	58.500	205.700
18:57:50	-90.738	36.719	252.360	58.500	205.900
18:58:00	-90.667	36.765	252.210	58.400	206.000
18:58:10	-90.596	36.812	252.070	58.300	206.200
18:58:20	-90.525	36.858	251.950	58.200	206.400
18:58:30	-90.453	36.905	251.810	58.100	206.500
18:58:40	-90.381	36.951	251.660	58.100	206.700
18:58:50	-90.310	36.998	251.510	58.000	206.900
18:59:00	-90.237	37.044	251.360	57.900	207.000
18:59:10	-90.165	37.091	251.210	57.800	207.200
18:59:20	-90.093	37.137	251.060	57.700	207.400
18:59:30	-90.020	37.183	250.940	57.600	207.500
18:59:40	-89.947	37.230	250.790	57.600	207.700
18:59:50	-89.874	37.276	250.640	57.500	207.800
19:00:00	-89.801	37.323	250.480	57.400	208.000
19:00:10	-89.727	37.369	250.330	57.300	208.200
19:00:20	-89.653	37.415	250.170	57.200	208.300
19:00:30	-89.579	37.462	250.020	57.100	208.500
19:00:40	-89.505	37.508	249.870	57.000	208.700
19:00:50	-89.431	37.554	249.720	57.000	208.800

Path of Total Solar Eclipse of Mon 08 Apr 2024

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
19:01:00	-89.356	37.601	249.560	56.900	209.000
19:01:10	-89.281	37.647	249.400	56.800	209.100
19:01:20	-89.206	37.694	249.240	56.700	209.300
19:01:30	-89.131	37.740	249.080	56.600	209.500
19:01:40	-89.056	37.786	248.920	56.500	209.600
19:01:50	-88.980	37.833	248.760	56.500	209.800
19:02:00	-88.904	37.879	248.600	56.400	209.900
19:02:10	-88.828	37.925	248.430	56.300	210.100
19:02:20	-88.751	37.971	248.270	56.200	210.200
19:02:30	-88.675	38.017	248.110	56.100	210.400
19:02:40	-88.598	38.064	247.940	56.000	210.600
19:02:50	-88.521	38.110	247.780	55.900	210.700
19:03:00	-88.444	38.156	247.610	55.800	210.900
19:03:10	-88.366	38.203	247.440	55.800	211.000
19:03:20	-88.288	38.249	247.280	55.700	211.200
19:03:30	-88.210	38.295	247.110	55.600	211.300
19:03:40	-88.132	38.341	246.940	55.500	211.500
19:03:50	-88.054	38.387	246.770	55.400	211.700
19:04:00	-87.975	38.434	246.600	55.300	211.800
19:04:10	-87.896	38.480	246.430	55.200	212.000
19:04:20	-87.817	38.526	246.260	55.100	212.100
19:04:30	-87.737	38.572	246.090	55.000	212.300
19:04:40	-87.657	38.618	245.920	55.000	212.400
19:04:50	-87.577	38.664	245.740	54.900	212.600
19:05:00	-87.497	38.710	245.570	54.800	212.700
19:05:10	-87.417	38.756	245.400	54.700	212.900
19:05:20	-87.336	38.802	245.220	54.600	213.100
19:05:30	-87.255	38.848	245.040	54.500	213.200
19:05:40	-87.174	38.894	244.870	54.400	213.400
19:05:50	-87.092	38.940	244.690	54.300	213.500
19:06:00	-87.011	38.986	244.510	54.200	213.700
19:06:10	-86.929	39.032	244.340	54.100	213.800
19:06:20	-86.846	39.078	244.160	54.000	214.000
19:06:30	-86.764	39.124	243.980	54.000	214.100
19:06:40	-86.681	39.170	243.790	53.900	214.300
19:06:50	-86.598	39.216	243.610	53.800	214.400
19:07:00	-86.515	39.262	243.430	53.700	214.600
19:07:10	-86.431	39.308	243.250	53.600	214.700
19:07:20	-86.347	39.354	243.070	53.500	214.900
19:07:30	-86.263	39.400	242.880	53.400	215.000
19:07:40	-86.179	39.446	242.700	53.300	215.200
19:07:50	-86.094	39.492	242.510	53.200	215.300
19:08:00	-86.009	39.537	242.320	53.100	215.500
19:08:10	-85.924	39.583	242.130	53.000	215.600

Path of Total Solar Eclipse of Mon 08 Apr 2024

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
19:08:20	-85.838	39.629	241.950	52.900	215.800
19:08:30	-85.752	39.675	241.760	52.800	216.000
19:08:40	-85.666	39.721	241.570	52.700	216.100
19:08:50	-85.580	39.766	241.390	52.600	216.300
19:09:00	-85.493	39.812	241.190	52.500	216.400
19:09:10	-85.406	39.858	241.000	52.500	216.600
19:09:20	-85.319	39.903	240.810	52.400	216.700
19:09:30	-85.232	39.949	240.620	52.300	216.900
19:09:40	-85.144	39.995	240.420	52.200	217.000
19:09:50	-85.056	40.040	240.220	52.100	217.200
19:10:00	-84.967	40.086	240.010	52.000	217.300
19:10:10	-84.878	40.132	239.800	51.900	217.500
19:10:20	-84.789	40.178	239.590	51.800	217.600
19:10:30	-84.700	40.223	239.380	51.700	217.800
19:10:40	-84.610	40.269	239.170	51.600	217.900
19:10:50	-84.520	40.315	238.960	51.500	218.100
19:11:00	-84.429	40.360	238.750	51.400	218.200
19:11:10	-84.339	40.406	238.540	51.300	218.400
19:11:20	-84.248	40.451	238.320	51.200	218.500
19:11:30	-84.156	40.497	238.110	51.100	218.700
19:11:40	-84.065	40.542	237.900	51.000	218.800
19:11:50	-83.973	40.588	237.690	50.900	218.900
19:12:00	-83.881	40.633	237.470	50.800	219.100
19:12:10	-83.788	40.679	237.260	50.700	219.200
19:12:20	-83.695	40.724	237.040	50.600	219.400
19:12:30	-83.601	40.770	236.810	50.500	219.500
19:12:40	-83.508	40.815	236.600	50.400	219.700
19:12:50	-83.414	40.861	236.380	50.300	219.800
19:13:00	-83.319	40.906	236.160	50.200	220.000
19:13:10	-83.225	40.952	235.940	50.100	220.100
19:13:20	-83.130	40.997	235.720	50.000	220.300
19:13:30	-83.035	41.042	235.500	49.900	220.400
19:13:40	-82.939	41.087	235.260	49.800	220.600
19:13:50	-82.843	41.133	235.030	49.700	220.700
19:14:00	-82.746	41.178	234.810	49.600	220.900
19:14:10	-82.649	41.223	234.580	49.500	221.000
19:14:20	-82.552	41.268	234.360	49.400	221.200
19:14:30	-82.455	41.314	234.140	49.300	221.300
19:14:40	-82.357	41.359	233.910	49.200	221.500
19:14:50	-82.259	41.404	233.660	49.100	221.600
19:15:00	-82.160	41.449	233.430	49.000	221.800
19:15:10	-82.061	41.494	233.210	48.900	221.900
19:15:20	-81.962	41.540	232.980	48.800	222.100
19:15:30	-81.862	41.585	232.750	48.700	222.200

Path of Total Solar Eclipse of Mon 08 Apr 2024

UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
19:15:40	-81.762	41.630	232.520	48.500	222.400
19:15:50	-81.661	41.675	232.290	48.400	222.500
19:16:00	-81.561	41.720	232.030	48.300	222.700
19:16:10	-81.459	41.765	231.800	48.200	222.800
19:16:20	-81.358	41.809	231.560	48.100	223.000
19:16:30	-81.256	41.854	231.330	48.000	223.100
19:16:40	-81.153	41.899	231.090	47.900	223.300
19:16:50	-81.051	41.944	230.860	47.800	223.400
19:17:00	-80.947	41.989	230.620	47.700	223.600
19:17:10	-80.844	42.034	230.330	47.600	223.700
19:17:20	-80.740	42.079	230.090	47.500	223.900
19:17:30	-80.635	42.123	229.850	47.400	224.000
19:17:40	-80.531	42.168	229.610	47.300	224.200
19:17:50	-80.425	42.213	229.370	47.200	224.300
19:18:00	-80.320	42.257	229.130	47.100	224.500
19:18:10	-80.214	42.302	228.890	46.900	224.600
19:18:20	-80.107	42.347	228.640	46.800	224.800
19:18:30	-80.000	42.391	228.390	46.700	224.900
19:18:40	-79.893	42.436	228.140	46.600	225.100
19:18:50	-79.785	42.480	227.900	46.500	225.200
19:19:00	-79.677	42.525	227.650	46.400	225.400
19:19:10	-79.568	42.569	227.410	46.300	225.500
19:19:20	-79.459	42.614	227.160	46.200	225.700
19:19:30	-79.349	42.658	226.910	46.100	225.800
19:19:40	-79.239	42.702	226.680	46.000	226.000
19:19:50	-79.129	42.747	226.430	45.900	226.100
19:20:00	-79.018	42.791	226.180	45.700	226.300
19:20:10	-78.906	42.835	225.930	45.600	226.400
19:20:20	-78.795	42.879	225.680	45.500	226.600
19:20:30	-78.683	42.923	225.420	45.400	226.700
19:20:40	-78.570	42.967	225.170	45.300	226.900
19:20:50	-78.457	43.011	224.920	45.200	227.000
19:21:00	-78.343	43.055	224.660	45.100	227.200
19:21:10	-78.228	43.100	224.390	45.000	227.300
19:21:20	-78.114	43.144	224.120	44.800	227.500
19:21:30	-77.999	43.188	223.850	44.700	227.600
19:21:40	-77.882	43.232	223.570	44.600	227.800
19:21:50	-77.765	43.276	223.300	44.500	227.900
19:22:00	-77.649	43.320	223.050	44.400	228.100
19:22:10	-77.531	43.364	222.770	44.300	228.200
19:22:20	-77.414	43.408	222.500	44.100	228.400
19:22:30	-77.295	43.452	222.230	44.000	228.500
19:22:40	-77.177	43.495	221.950	43.900	228.700
19:22:50	-77.057	43.539	221.670	43.800	228.800

Path of Total Solar Eclipse of Mon 08 Apr 2024

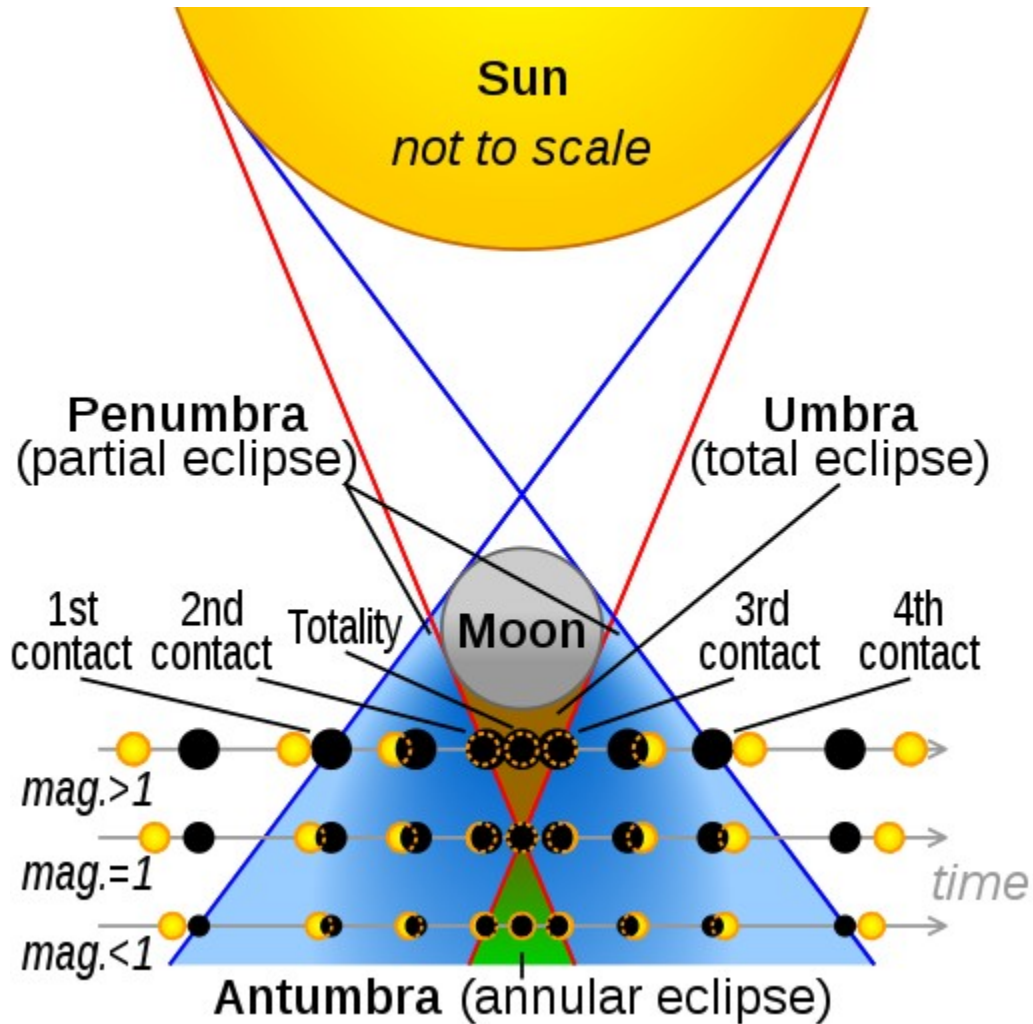
UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
19:23:00	-76.938	43.583	221.400	43.700	229.000
19:23:10	-76.817	43.626	221.140	43.600	229.100
19:23:20	-76.696	43.670	220.860	43.400	229.300
19:23:30	-76.575	43.713	220.580	43.300	229.500
19:23:40	-76.453	43.757	220.300	43.200	229.600
19:23:50	-76.330	43.800	220.020	43.100	229.800
19:24:00	-76.208	43.843	219.730	43.000	229.900
19:24:10	-76.084	43.886	219.450	42.900	230.100
19:24:20	-75.960	43.930	219.190	42.700	230.200
19:24:30	-75.836	43.972	218.900	42.600	230.400
19:24:40	-75.711	44.016	218.620	42.500	230.500
19:24:50	-75.585	44.059	218.330	42.400	230.700
19:25:00	-75.459	44.102	218.040	42.300	230.800
19:25:10	-75.332	44.145	217.750	42.100	231.000
19:25:20	-75.205	44.187	217.470	42.000	231.200
19:25:30	-75.077	44.230	217.180	41.900	231.300
19:25:40	-74.949	44.272	216.890	41.800	231.500
19:25:50	-74.820	44.315	216.590	41.600	231.600
19:26:00	-74.690	44.358	216.300	41.500	231.800
19:26:10	-74.559	44.401	216.000	41.400	231.900
19:26:20	-74.428	44.443	215.700	41.300	232.100
19:26:30	-74.297	44.486	215.400	41.200	232.300
19:26:40	-74.165	44.528	215.090	41.000	232.400
19:26:50	-74.031	44.571	214.790	40.900	232.600
19:27:00	-73.896	44.614	214.480	40.800	232.700
19:27:10	-73.761	44.657	214.170	40.700	232.900
19:27:20	-73.624	44.700	213.860	40.500	233.100
19:27:30	-73.487	44.743	213.550	40.400	233.200
19:27:40	-73.349	44.786	213.240	40.300	233.400
19:27:50	-73.212	44.828	212.920	40.100	233.600
19:28:00	-73.075	44.869	212.610	40.000	233.700
19:28:10	-72.937	44.911	212.310	39.900	233.900
19:28:20	-72.799	44.953	212.000	39.800	234.000
19:28:30	-72.659	44.995	211.690	39.600	234.200
19:28:40	-72.518	45.037	211.370	39.500	234.400
19:28:50	-72.377	45.078	211.060	39.400	234.500
19:29:00	-72.236	45.120	210.740	39.200	234.700
19:29:10	-72.093	45.162	210.430	39.100	234.900
19:29:20	-71.949	45.203	210.110	39.000	235.000
19:29:30	-71.805	45.244	209.790	38.900	235.200
19:29:40	-71.661	45.285	209.480	38.700	235.300
19:29:50	-71.515	45.327	209.160	38.600	235.500
19:30:00	-71.369	45.368	208.830	38.500	235.700
19:30:10	-71.222	45.409	208.520	38.300	235.800

Path of Total Solar Eclipse of Mon 08 Apr 2024

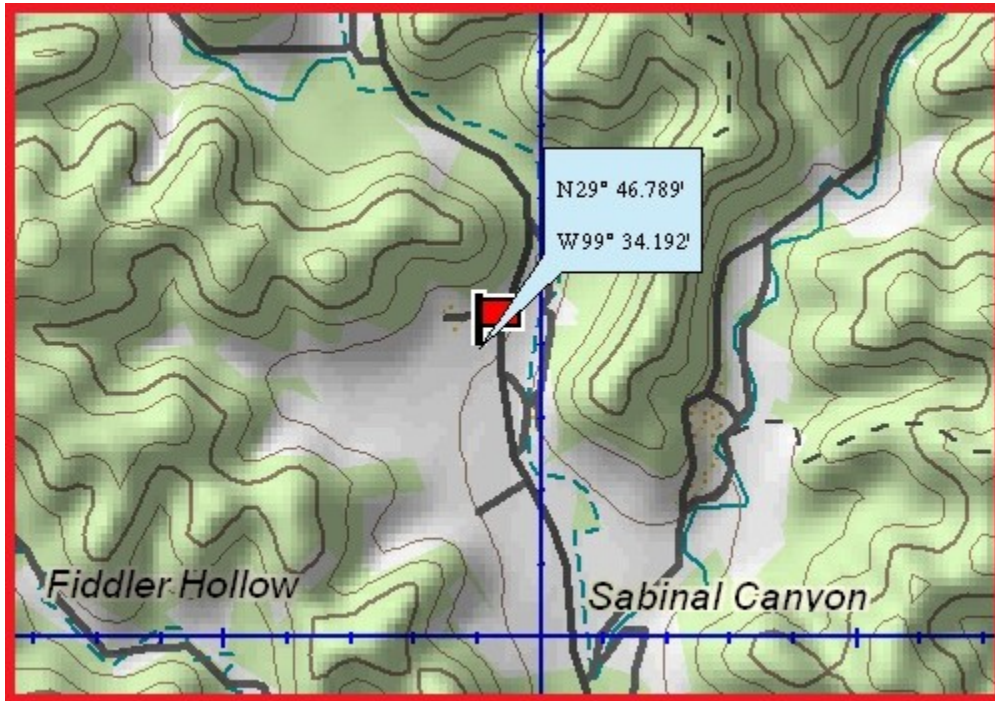
UTCTime	CenterLon	CenterLat	Duration	SunAlt	SunAz
19:30:20	-71.077	45.449	208.200	38.200	236.000
19:30:30	-70.926	45.491	207.870	38.100	236.200
19:30:40	-70.778	45.531	207.550	37.900	236.300
19:30:50	-70.629	45.572	207.230	37.800	236.500
19:31:00	-70.474	45.614	206.890	37.700	236.700
19:31:10	-70.322	45.655	206.560	37.500	236.900
19:31:20	-70.169	45.696	206.230	37.400	237.000
19:31:30	-70.015	45.736	205.890	37.200	237.200
19:31:40	-69.860	45.777	205.560	37.100	237.400
19:31:50	-69.703	45.818	205.220	37.000	237.500
19:32:00	-69.547	45.858	204.890	36.800	237.700
19:32:10	-69.390	45.898	204.550	36.700	237.900
19:32:20	-69.232	45.939	204.210	36.600	238.100
19:32:30	-69.075	45.978	203.880	36.400	238.200
19:32:40	-68.915	46.018	203.540	36.300	238.400
19:32:50	-68.750	46.060	203.190	36.100	238.600
19:33:00	-68.590	46.099	202.850	36.000	238.800
19:33:10	-68.428	46.138	202.510	35.900	238.900
19:33:20	-68.264	46.178	202.160	35.700	239.100
19:33:30	-68.099	46.218	201.810	35.600	239.300
19:33:40	-67.932	46.258	201.460	35.400	239.500
19:33:50	-67.765	46.298	201.110	35.300	239.600
19:34:00	-67.597	46.337	200.760	35.100	239.800
19:34:10	-67.430	46.376	200.410	35.000	240.000
19:34:20	-67.264	46.413	200.070	34.800	240.200
19:34:30	-67.092	46.453	199.710	34.700	240.400
19:34:40	-66.920	46.492	199.350	34.600	240.500
19:34:50	-66.748	46.530	199.000	34.400	240.700
19:35:00	-66.571	46.570	198.630	34.300	240.900
19:35:10	-66.398	46.608	198.270	34.100	241.100
19:35:20	-66.220	46.647	197.910	34.000	241.300
19:35:30	-66.043	46.686	197.540	33.800	241.500
19:35:40	-65.864	46.724	197.170	33.700	241.600
19:35:50	-65.685	46.762	196.810	33.500	241.800
19:36:00	-65.504	46.800	196.440	33.400	242.000
19:36:10	-65.323	46.838	196.070	33.200	242.200
19:36:20	-65.140	46.875	195.700	33.000	242.400
19:36:30	-64.956	46.913	195.330	32.900	242.600

Finale

Here is an image that will make the understanding of the operation of a solar eclipse more comprehensible.



This image of the locale of the interception of the upcoming 2023 Solar Eclipse and the 2024 Solar Eclipse in the Sabinal Canyon of Texas will help to make the subject more real and less academic.



This seven year spate of Celestial events is occurring at a time when the resources that support an artificial civilization are becoming scarcer and less accessible. The curious thing is that the fatal dependency began about the time of the 1918 Solar Eclipse.

Today is Sun 27 Aug 2023. The last two solar eclipses have not yet taken place. Bad actors are coming out from under the rocks in droves. The least harmless of the bad actors will ignore these things and seek only personal financial gain. The worst of the bad actors will truly believe that these things are a message from God instructing them to do bad things. Let me now close out this document with the following words from Matthew 24.

Patrick Richard Ahmatov Sun 27 Aug 2023

Matthew 24

King James Version

1 And Jesus went out, and departed from the temple: and his disciples came to him for to shew him the buildings of the temple.

2 And Jesus said unto them, See ye not all these things? verily I say unto you, There shall not be left here one stone upon another, that shall not be thrown down.

3 And as he sat upon the mount of Olives, the disciples came unto him privately, saying, Tell us, when shall these things be? and what shall be the sign of thy coming, and of the end of the world?

4 And Jesus answered and said unto them, Take heed that no man deceive you.

5 For many shall come in my name, saying, I am Christ; and shall deceive many.

6 And ye shall hear of wars and rumours of wars: see that ye be not troubled: for all these things must come to pass, but the end is not yet.

7 For nation shall rise against nation, and kingdom against kingdom: and there shall be famines, and pestilences, and earthquakes, in divers places.

8 All these are the beginning of sorrows.

9 Then shall they deliver you up to be afflicted, and shall kill you: and ye shall be hated of all nations for my name's sake.

10 And then shall many be offended, and shall betray one another, and shall hate one another.

11 And many false prophets shall rise, and shall deceive many.

12 And because iniquity shall abound, the love of many shall wax cold.

13 But he that shall endure unto the end, the same shall be saved.

14 And this gospel of the kingdom shall be preached in all the world for a witness unto all nations; and then shall the end come.

15 When ye therefore shall see the abomination of desolation, spoken of by Daniel the prophet, stand in the holy place, (whoso readeth, let him understand:)

16 Then let them which be in Judaea flee into the mountains:

17 Let him which is on the housetop not come down to take any thing out of his house:

18 Neither let him which is in the field return back to take his clothes.

19 And woe unto them that are with child, and to them that give suck in those days!

20 But pray ye that your flight be not in the winter, neither on the sabbath day:

21 For then shall be great tribulation, such as was not since the beginning of the world to this time, no, nor ever shall be.

22 And except those days should be shortened, there should no flesh be saved: but for the elect's sake those days shall be shortened.

23 Then if any man shall say unto you, Lo, here is Christ, or there; believe it not.

24 For there shall arise false Christs, and false prophets, and shall shew great signs and wonders; insomuch that, if it were possible, they shall deceive the very elect.

25 Behold, I have told you before.

26 Wherefore if they shall say unto you, Behold, he is in the desert; go not forth: behold, he is in the secret chambers; believe it not.

27 For as the lightning cometh out of the east, and shineth even unto the west; so shall also the coming of the Son of man be.

28 For wheresoever the carcase is, there will the eagles be gathered together.

29 Immediately after the tribulation of those days shall the sun be darkened, and the moon shall not give her light, and the stars shall fall from heaven, and the powers of the heavens shall be shaken:

30 And then shall appear the sign of the Son of man in heaven: and then shall all the tribes of the earth mourn, and they shall see the Son of man coming in the clouds of heaven with power and great glory.

31 And he shall send his angels with a great sound of a trumpet, and they shall gather together his elect from the four winds, from one end of heaven to the other.

32 Now learn a parable of the fig tree; When his branch is yet tender, and putteth forth leaves, ye know that summer is nigh:

33 So likewise ye, when ye shall see all these things, know that it is near, even at the doors.

34 Verily I say unto you, This generation shall not pass, till all these things be fulfilled.

35 Heaven and earth shall pass away, but my words shall not pass away.

36 But of that day and hour knoweth no man, no, not the angels of heaven, but my Father only.

37 But as the days of Noah were, so shall also the coming of the Son of man be.

38 For as in the days that were before the flood they were eating and drinking, marrying and giving in marriage, until the day that Noe entered into the ark,

39 And knew not until the flood came, and took them all away; so shall also the coming of the Son of man be.

40 Then shall two be in the field; the one shall be taken, and the other left.

41 Two women shall be grinding at the mill; the one shall be taken, and the other left.

42 Watch therefore: for ye know not what hour your Lord doth come.

43 But know this, that if the goodman of the house had known in what watch the thief would come, he would have watched, and would not have suffered his house to be broken up.

44 Therefore be ye also ready: for in such an hour as ye think not the Son of man cometh.

45 Who then is a faithful and wise servant, whom his lord hath made ruler over his household, to give them meat in due season?

46 Blessed is that servant, whom his lord when he cometh shall find so doing.

47 Verily I say unto you, That he shall make him ruler over all his goods.

48 But and if that evil servant shall say in his heart, My lord delayeth his coming;

49 And shall begin to smite his fellow servants, and to eat and drink with the drunken;

50 The lord of that servant shall come in a day when he looketh not for him, and in an hour that he is not aware of,

51 And shall cut him asunder, and appoint him his portion with the hypocrites: there shall be weeping and gnashing of teeth.