# Eclipse Dates in 2019

The scientific point of view:- An eclipse occurs when one object gets in between you and another object and blocks your view. From Earth, we routinely experience two kinds of eclipses: an eclipse of the Moon and an eclipse of the Sun.

Eclipses of the Moon:- Sometimes, as the Earth orbits the Sun, it comes between the Sun and the Moon. When this happens, the Earth throws a dark shadow across the Moon. This is known as an eclipse of the Moon, or a lunar eclipse.

Eclipses of the Sun:- Sometimes, the Moon passes between the Earth and the Sun. The Moon blocks the light of the Sun and a shadow of the Moon is cast on the Earth's surface. This is an eclipse of the Sun, or a solar eclipse.

There are three types of a solar eclipse: total, partial, and annular. During a total eclipse, the Moon completely covers our view of the Sun. A total eclipse is only visible from a narrow strip (about 150 km wide) of the Earth's surface at any one time. From the areas outside this narrow strip, the Sun appears to be only partially covered and a partial eclipse is seen. A partial eclipse will also occur if the Sun, Moon, and Earth are not precisely lined up. The eclipse cannot be total unless the center of the Moon's shadow is able to strike the Earth. The eclipse type that occurs when the Moon is at its farthest distance from the Earth is an annular eclipse. The Moon then appears too small to completely block out the disk of the Sun.

During a solar eclipse, the Moon actually casts two shadows toward Earth. One shadow is called the umbra which becomes smaller as it reaches the Earth. This is the dark center of the Moon's shadow. The second shadow is called the penumbra. This shadow becomes larger as it reaches the Earth. A total solar eclipse, or a complete blocking out of the Sun's light, can only be seen by those who live in the area covered by the umbra. People who live in the area of the Earth covered by the penumbra will see a partial eclipse.

A total solar eclipse can only occur when two events happen at the same time. The first event is a new Moon. This phase of the Moon occurs when the Sun is almost directly behind the Moon, and we see only a sliver of the Sun's light reflected by the Moon. During this time the Moon and the Sun appear close together. The second event that must occur is that the Moon must be in the right position, directly in the line of sight between the Earth and the Sun. These two events occur at the same time about once every year and a half.

## 2019 Lunar Eclipse's

21st January – Initial partial phase visible in S.A between 04h35 to 09h49.
16th July - Visible in S.A between 20h42 to 02h19.

## 2019 Solar Eclipse's

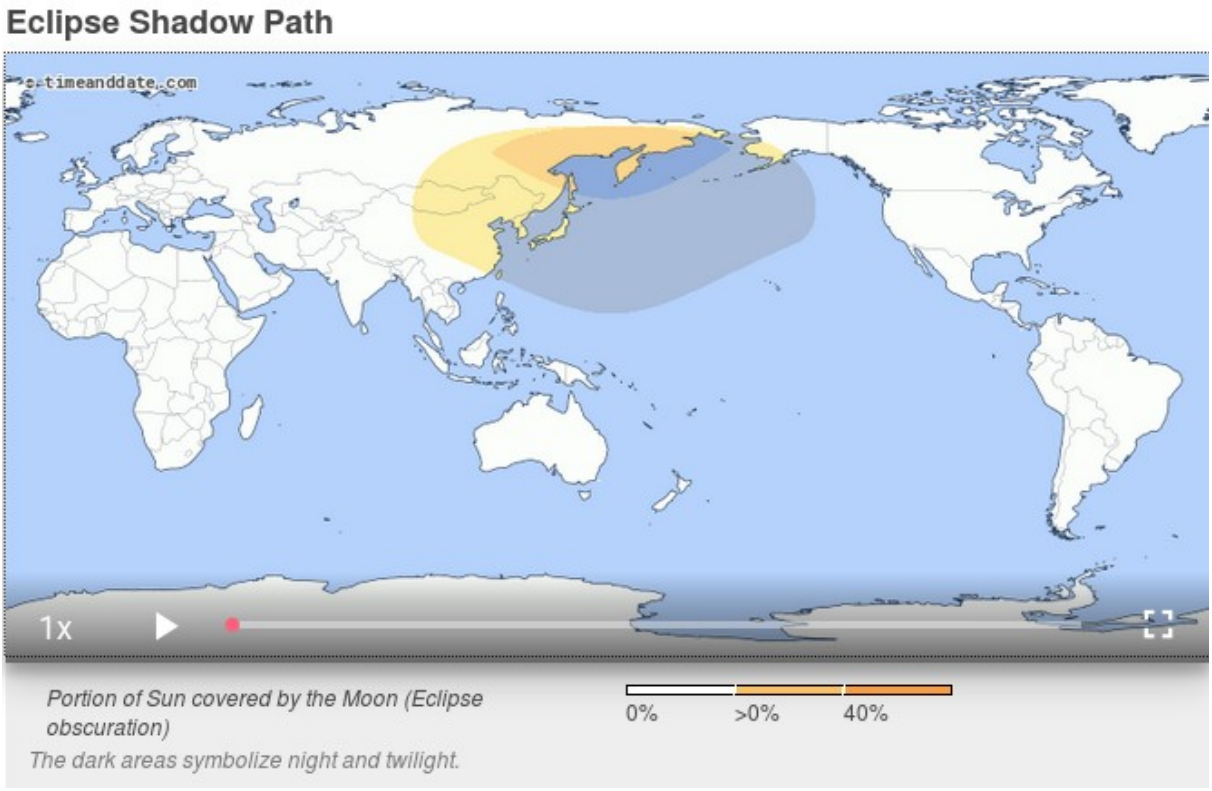
5th - 6th January - Not visible in S.A.
2nd July – Not visible in S.A.
26th December – Not visible in S.A.

An Eclipse Never Comes Alone:- A solar eclipse always occurs about two weeks before or after a lunar eclipse. Usually, there are two eclipses in a row, but other times, there are three during the same eclipse season.

## 5th – 6th January 2019 — Partial Solar Eclipse.

## (NOT VISIBLE IN SOUTH AFRICA)

This partial solar eclipse is visible from locations in north Pacific and northeast Asia, including Beijing, Irkutsk in Russia, Seoul, Taipei, and Tokyo.



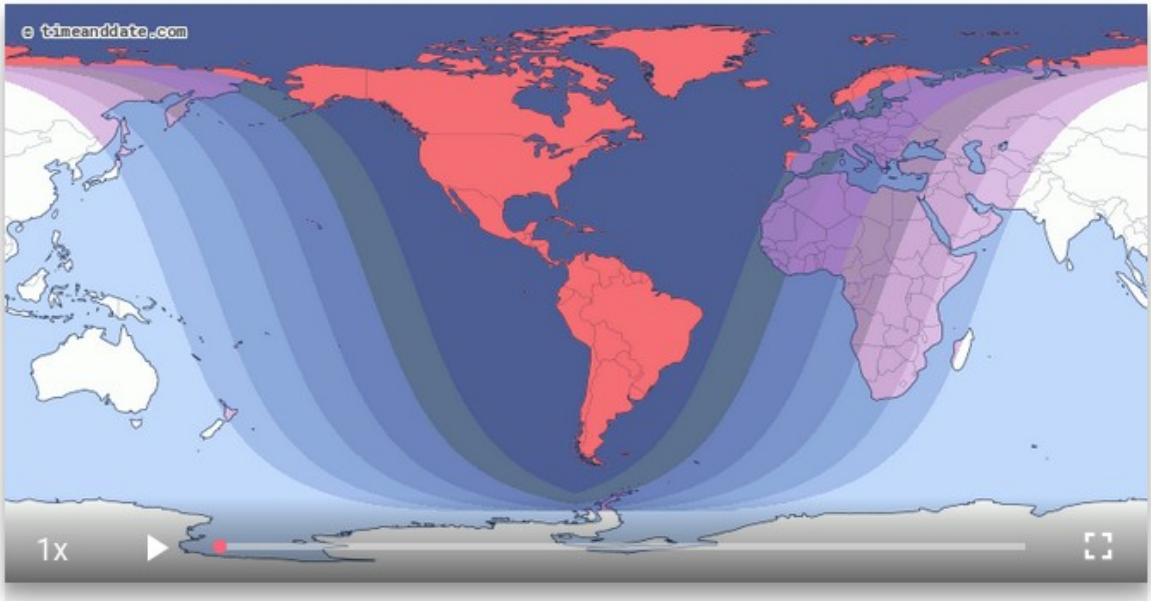

| EVENT | UTC TIME | TIME IN S.A. |
|---|---|---|
| First location to see the partial eclipse begin | 5 Jan, 23:34:08 | 6 Jan, 01:34:08 |
| Maximum Eclipse | 6 Jan, 01:41:26 | 6 Jan, 03:41:26 |
| Last location to see the partial eclipse end | 6 Jan, 03:48:46 | 6 Jan, 05:48:46 |

## 21st January 2019 — Partial Lunar Eclipse.

## (VISIBLE IN SOUTH AFRICA)

The total phase of this total lunar eclipse will be visible from North and South America, and western parts of Europe and Africa. Central and eastern Africa, Europe, and Asia will see a partial eclipse of the Moon.

## Eclipse Map and Animation




The entire eclipse is visible from start to end.

The entire partial and total phases are visible. Misses part of penumbral phase.

The entire total phase is visible. Misses part of partial & penumbral phases.

Some of the total phase is visible. Misses part of total, partial & penumbral phases.

Some of the partial phase is visible. Misses total phase and part of partial & penumbral phases.

Some of the penumbral phase is visible. Misses total & partial phases.

The eclipse is not visible at all.

***Note:*** *Areas with lighter shadings left (West) of the center will experience the eclipse after moonrise/sunset. Areas with lighter shadings right (East) of the center will experience the eclipse until moonset/sunrise. Actual eclipse visibility depends on weather conditions and line of sight to the Moon.*

## When the Eclipse Happens Worldwide — Timeline

Lunar eclipses can be visible from everywhere on the night side of the Earth, if the sky is clear. From some places, the entire eclipse will be visible, while in other areas the Moon will rise or set during the eclipse.

| Event | UTC Time | Time in S.A* | Visible in S.A |
|---|---|---|---|
| Penumbral Eclipse begins | 21 Jan, 02:36:29 | 21 Jan, 04:36:29 | Yes |
| Partial Eclipse begins | 21 Jan, 03:33:54 | 21 Jan, 05:33:54 | No, below the horizon |
| Full Eclipse begins | 21 Jan, 04:41:17 | 21 Jan, 06:41:17 | No, below the horizon |
| Maximum Eclipse | 21 Jan, 05:12:14 | 21 Jan, 07:12:14 | No, below the horizon |
| Full Eclipse ends | 21 Jan, 05:43:15 | 21 Jan, 07:43:15 | No, below the horizon |

| Event | UTC Time | Time in S.A* | Visible in S.A |
|---|---|---|---|
| Partial Eclipse ends | 21 Jan, 06:50:39 | 21 Jan, 08:50:39 | No, below the horizon |
| Penumbral Eclipse ends | 21 Jan, 07:48:02 | 21 Jan, 09:48:02 | No, below the horizon |

The total duration of the eclipse is 5 hours, 12 minutes.

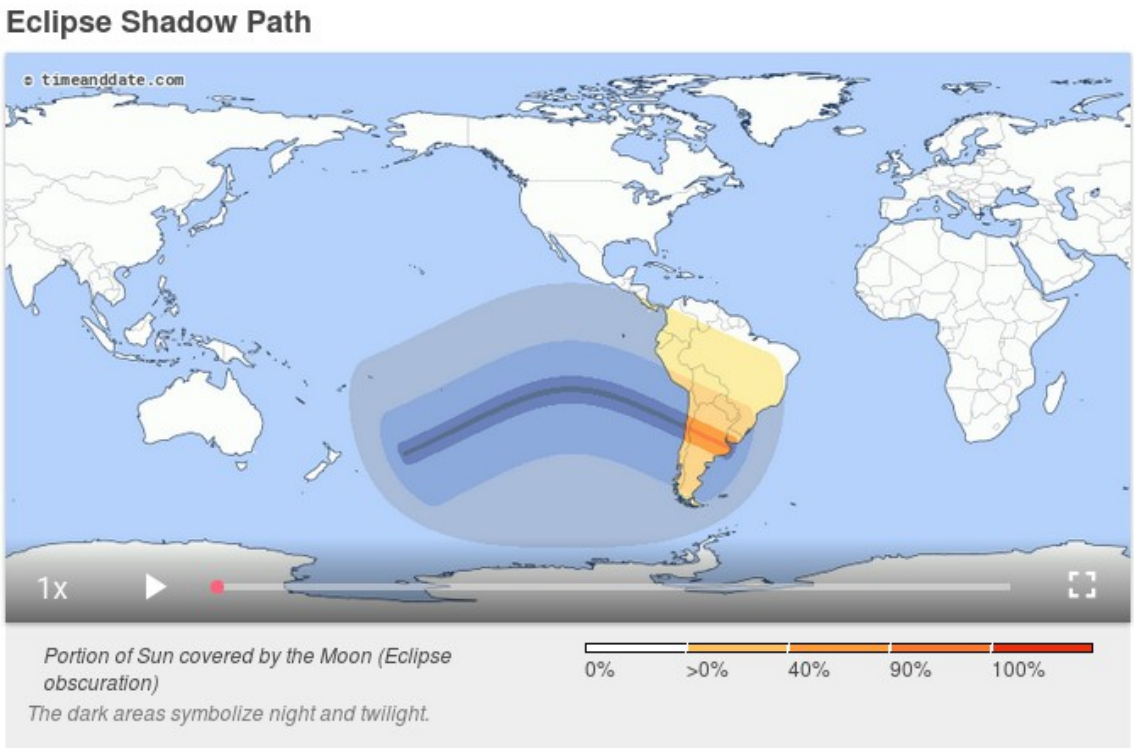
The total duration of the partial phases is 2 hours, 15 minutes.

The duration of the full eclipse is 1 hour, 2 minutes.

## 2nd July 2019 — Total Solar Eclipse.

## (NOT VISIBLE IN SOUTH AFRICA)

This total solar eclipse will be visible from small parts of Chile and Argentina just before sunset. Some regions in the Pacific and in South America, including locations in Ecuador, Brazil, Uruguay, and Paraguay will see a partial solar eclipse.




When the Eclipse Happens Worldwide — Timeline

The eclipse starts at one location and ends at another. The times below are actual times (in UTC) when the eclipse occurs.

| Event | UTC Time | Time in Durban* |
|---|---|---|
| First location to see the partial eclipse begin | 2 Jul, 16:55:13 | 2 Jul, 18:55:13 |
| First location to see the full eclipse begin | 2 Jul, 18:01:08 | 2 Jul, 20:01:08 |

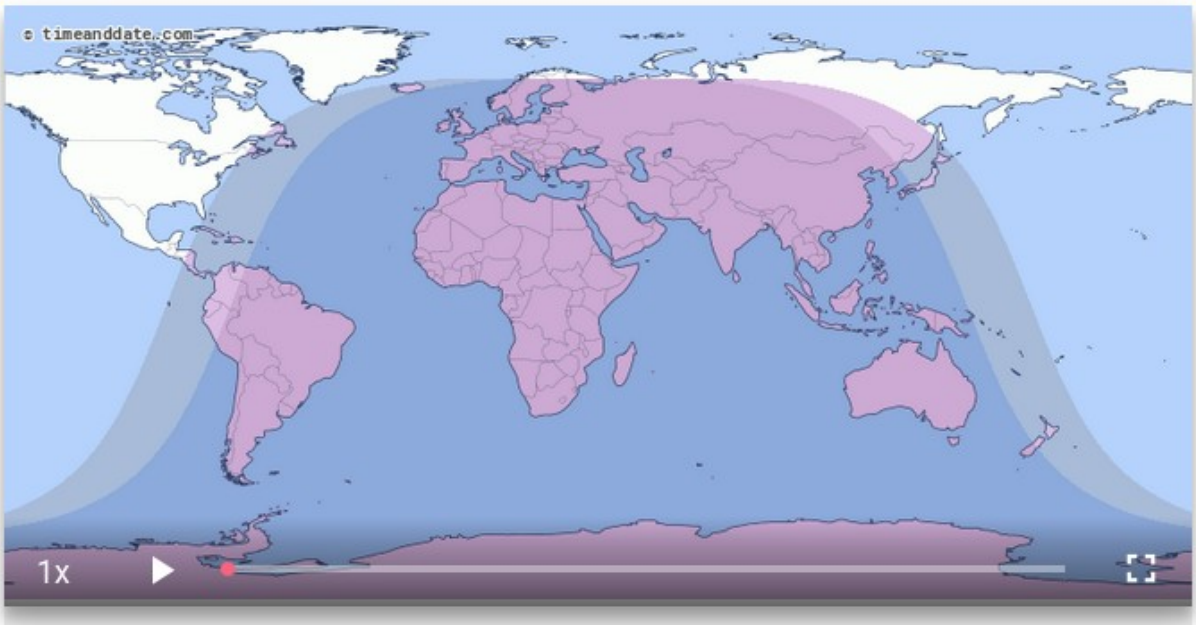
| Event | UTC Time | Time in Durban* |
|---|---|---|
| Maximum Eclipse | 2 Jul, 19:22:57 | 2 Jul, 21:22:57 |
| Last location to see the full eclipse end | 2 Jul, 20:44:46 | 2 Jul, 22:44:46 |
| Last location to see the partial eclipse end | 2 Jul, 21:50:34 | 2 Jul, 23:50:34 |

## 16th -17th July 2019 — Partial Lunar Eclipse.

## (VISIBLE IN SOUTH AFRICA)

Regions seeing, at least, some parts of the eclipse: Much of Europe, Much of Asia, Australia, Africa, South/East North America, South America, Pacific, Atlantic, Indian Ocean, Antarctica.

**Eclipse Map and Animation**




*Eclipse is visible.*

*Only penumbral phase visible. Misses partial phase.*

*The eclipse is not visible at all.*

***Note:*** *Areas with lighter shadings left (West) of the center will experience the eclipse after moonrise/sunset. Areas with lighter shadings right (East) of the center will experience the eclipse until moonset/sunrise. Actual eclipse visibility depends on weather conditions and line of sight to the Moon.*

When the Eclipse Happens Worldwide — Timeline

Lunar eclipses can be visible from everywhere on the night side of the Earth, if the sky is clear. From some places, the entire eclipse will be visible, while in other areas the Moon will rise or set during the eclipse.

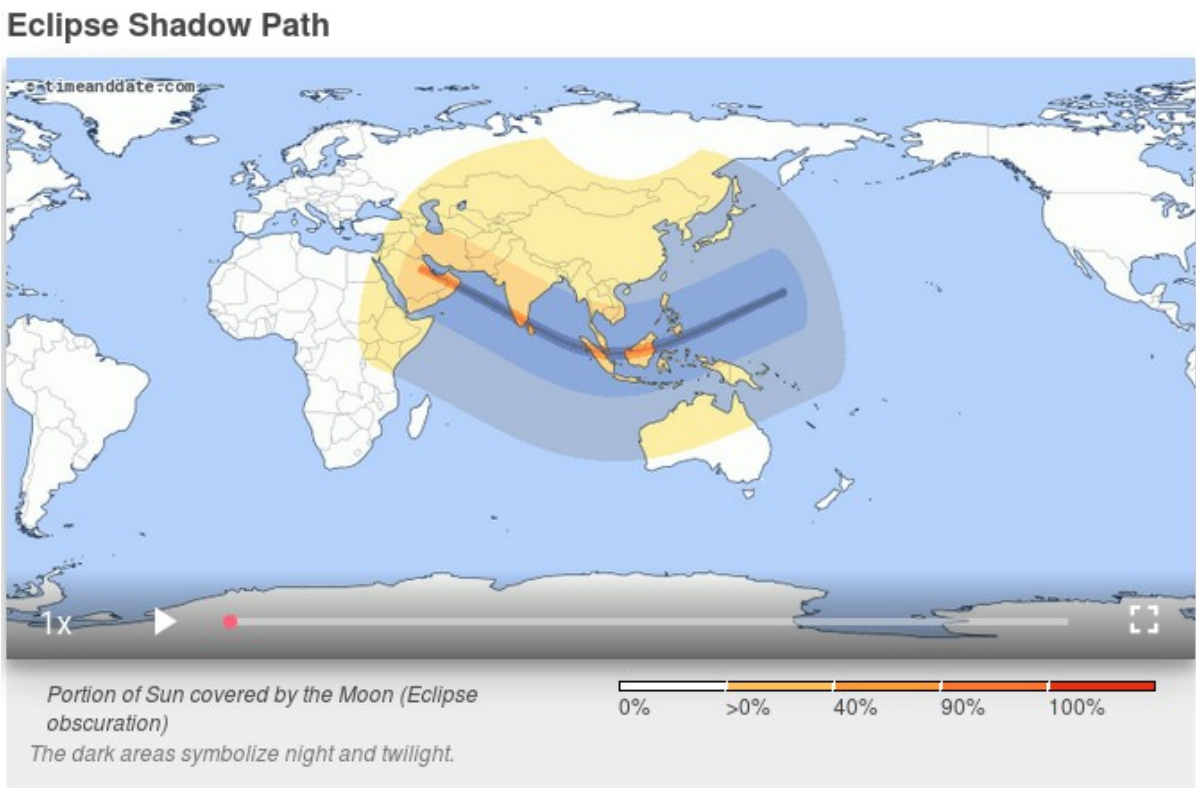
| Event | UTC Time | Time in S.A.* | Visible in S.A. |
|---|---|---|---|
| Penumbral Eclipse begins | 16 Jul, 18:43:51 | 16 Jul, 20:43:51 | Yes |
| Partial Eclipse begins | 16 Jul, 20:01:43 | 16 Jul, 22:01:43 | Yes |
| Maximum Eclipse | 16 Jul, 21:30:44 | 16 Jul, 23:30:44 | Yes |
| Partial Eclipse ends | 16 Jul, 22:59:39 | 17 Jul, 00:59:39 | Yes |
| Penumbral Eclipse ends | 17 Jul, 00:17:38 | 17 Jul, 02:17:38 | Yes |

The total duration of the eclipse is 5 hours, 34 minutes.
The duration of the partial eclipse is 2 hours, 58 minutes.

## 26th December 2019 — Solar Eclipse.

## (NOT VISIBLE IN SOUTH AFRICA)

**Regions seeing, at least, a partial eclipse:** East in Europe, Much of Asia, North/West Australia, East in Africa, Pacific, Indian Ocean.




When the Eclipse Happens Worldwide — Timeline

The eclipse starts at one location and ends at another. The times below are actual times (in UTC) when the eclipse occurs.

| Event | UTC Time | Time in Durban* |
|---|---|---|
| First location to see the partial eclipse begin | 26 Dec, 02:29:53 | 26 Dec, 04:29:53 |
| First location to see the full eclipse begin | 26 Dec, 03:34:33 | 26 Dec, 05:34:33 |
| Maximum Eclipse | 26 Dec, 05:17:46 | 26 Dec, 07:17:46 |

| Event | UTC Time | Time in Durban* |
|---|---|---|
| Last location to see the full eclipse end | 26 Dec, 07:00:55 | 26 Dec, 09:00:55 |
| Last location to see the partial eclipse end | 26 Dec, 08:05:40 | 26 Dec, 10:05:40 |

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