

After a year without Total Solar Eclipses (the last one occurred on March 20, 2015), on March 9th 2016 we will be able to see the shadow of the Moon touching the surface of our planet. This time it will be a complicated eclipse because the shadow will only be visible in the large archipelago of Indonesia, where there is a high chance of clouds due to its equatorial location (see [Figure 1](#)).

Pearls and Diamonds

There are many fascinating effects that can be observed during a Total Solar Eclipse. If the observer is located in a high spot with a good view looking at the horizon, the Moon's shadow can be seen approaching at supersonic speed from the western horizon. The beginning of the Totality phase starts with the appearance of the Baily's beads ([Figure 2](#)). These are bright points of light surrounding the dark lunar disk that are caused by the sunlight when it passes through the rugged lunar limb topography of the Moon. Once the solar disk is completely covered, the solar corona appears and then it is possible to observe the Total Solar Eclipse with the naked eye ([Figure 3](#)). Otherwise, the observer would have been dazzled by the brightness of the Sun's photosphere which is a million times brighter than the Sun's corona. During the first few seconds, part of the chromosphere may also be seen as thin arcs of intense red colour with some bright extensions ([Figure 2](#)). These arcs typically disappear as the lunar disk progresses, unless they are very large. The corona, which is seen as an intense pearly white has structures that reflect the magnetic field of the Sun. The shape and brightness of the corona depend on where the Sun is in its solar activity cycle.

Broadcast

From the city Palu city (Indonesia, see [map](#)), the duration of the Solar Eclipse will be 2h 33m (March 8th 23:27 - 9th 02:00 UT) and broadcasting will have a total duration of **15 minutes** starting at the same time as the beginning of Partiality, first contact C1, and Totality, second (C2) and third (C3) contact (see time table in Annex 1). Astronomers from Palu (Serra-Ricart and Cox) will provide explanations in Spanish and English. Two connections will be done:

Connection 1: Beginning of partiality (5 minutes)

March 8th, from 23:25 to 23:30 UT (March 9th 00:25 - 00:30 CET, 7:25 - 7:30 local).

Connection 2: Totality, 2nd and 3rd Contact (10 minutes)

March 9th, from 00:32 to 00:42 UT (01:32 - 01:42 CET, 8:32 - 8:42 local).

Note: UT Universal Time; CET- Central European Time.

The broadcast can be followed from the website [sky-live.tv](#).

STARS4ALL is a project funded by the European Union H2020 Programme under the agreement number 688135. STARS4ALL is organised by 8 institutions (UPM, CEFRIEL, SOTON, ECN, ESCP, IAC, IGB, UCM) from 6 countries.

The [Tadulako University](#) (Palu, Indonesia) will participate in the broadcasting. Three Spanish supercomputing centers CETA-CIEMAT (Centro Extremeño de Tecnologías Avanzadas), CSUC (Consorci de Serveis Universitaris de Catalunya) and IAC (Instituto de Astrofísica de Canarias) will collaborate in the broadcasting of the live streaming from the web portal ([sky-live.tv](#)).

The STARS4ALL project website: <http://www.stars4all.eu/>

The educational activities for schools will be available in:
<http://astroaula.net/recursos-didacticos/actividades/eclipse-atmosfera/>

Broadcast information:
<https://docs.google.com/document/d/133B8eUyMvpZoZ2otnWSlc9w60ls0k3vnflgPfN8ldco/edit?usp=sharing>

Images in high resolution of previous Total Solar Eclipses:
<https://www.flickr.com/photos/65131760@N06/sets/72157634767436442/>

Videos of previous total solar eclipses:
<https://www.youtube.com/playlist?list=PL6oc5e7ISjeLHZ24RZ1ymjiOjKXZF1Wp>

Expedition Blog: <http://journal.shelios.com/>

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ANNEX 1.- Eclipse Circumstances in Palu-Indonesia (March 9th, 2016)

Duration of the total solar eclipse: 2 minutes

Contacts	Time (UT)	CET	Local	Alt	Azi
Start partiality (C1) :	23:27:52 (8th)	00:27:52	7:27:52	19.2°	94.4°
Start total solar eclipse (C2) :	00:37:52	01:37:52	8:37:52	36.7°	94.8°
Maximum eclipse:	00:38:51	01:38:51	8:38:51	36.9°	94.9°
End of the total eclipse (C3) :	00:39:50	01:39:50	8:39:50	37.2°	94.9°
End of the partial eclipse (C4) :	02:00:36	03:00:36	10:00:36	57.3°	94.7°

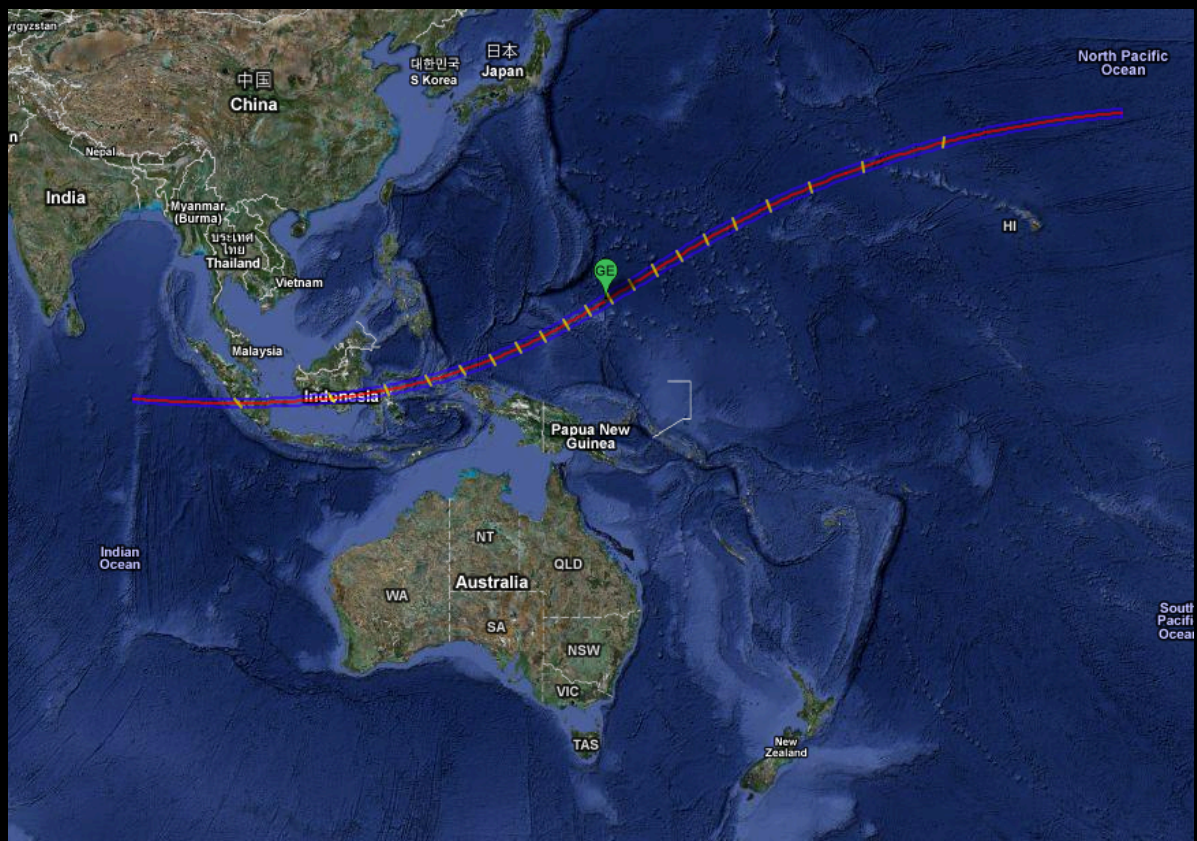


Figure 1. Totality path (blue lines) of the Eclipse of March 9, 2016, according to data from NASA. The green dot (GE) indicates where the duration of the eclipse is maximum (4m09s). The observation point of the expedition Shelios 2016 will be Palu (Indonesia, see [map](#) expedition, red dot). Image courtesy of NASA and Google ([interactive map](#)).



Figure 2. Baily's Beads and solar chromosphere at second contact of the eclipse of November 13th, 2012 observed in Cairns, Australia (credits J.C. Casado, gloria-project.eu). [High resolution](#).



Figure 3. Solar Coronal and stellar background in the Eclipse of August 1st, 2008 observed from Russia (credits J.C. Casado, starryearth). [Hight resolution](#).