Fenomeni astronomici del 2024

3 gennaio ore 00:40 Terra al perelio - distanza dal Sole 147 MKm (32',5)
5 luglio ore 05:07 Terra all'afelio - distanza dal Sole 152 MKm (31',5)

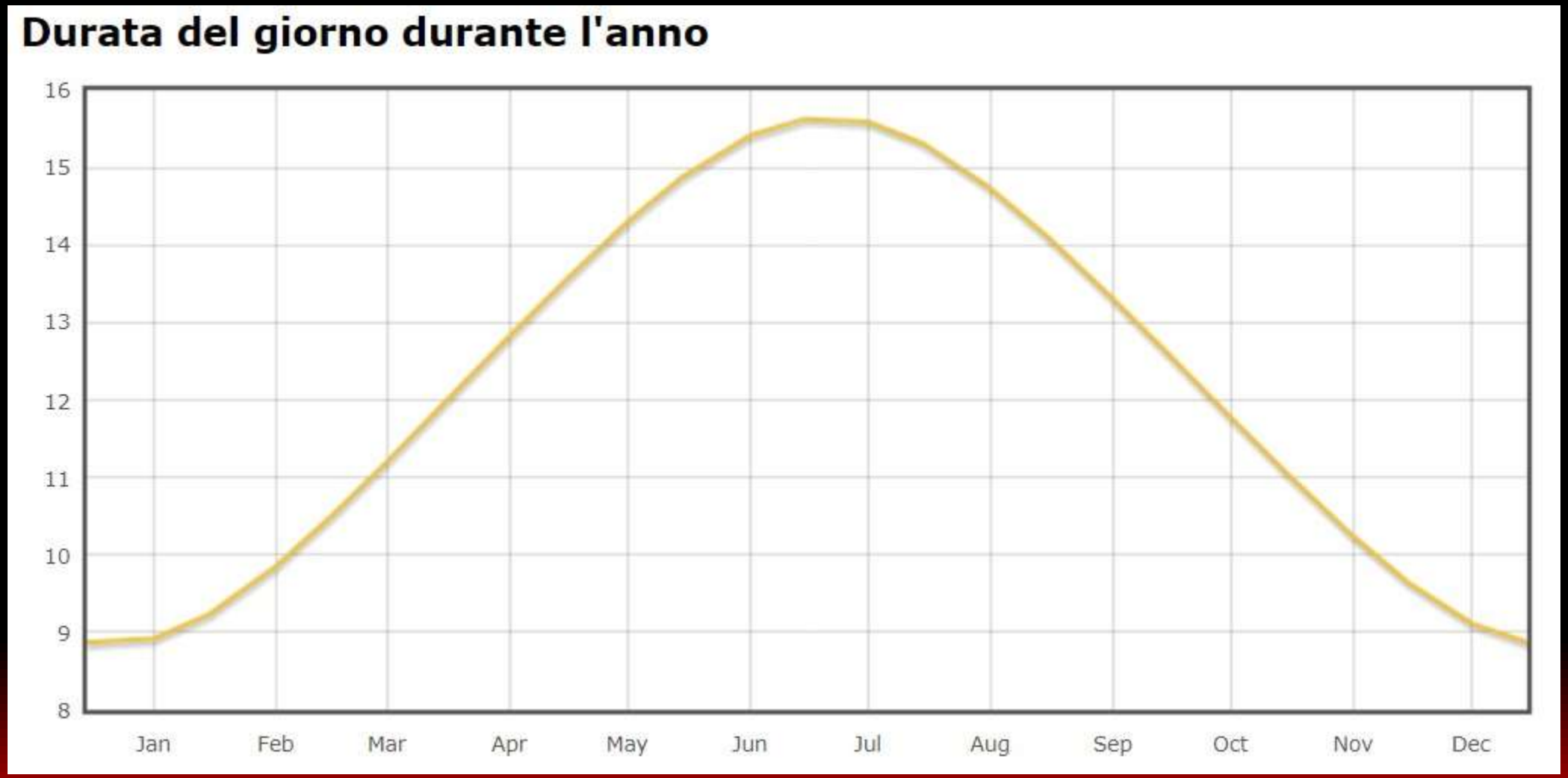
Eqinozi e sostizi del 2024

20 marzo alle 05:07	equinozio di primavera
20 giugno alle 22:51	solstizio d'estate
22 settembre alle 14:44	equinozio d'autunno
21 dicembre alle 11:21	solstizio d'inverno

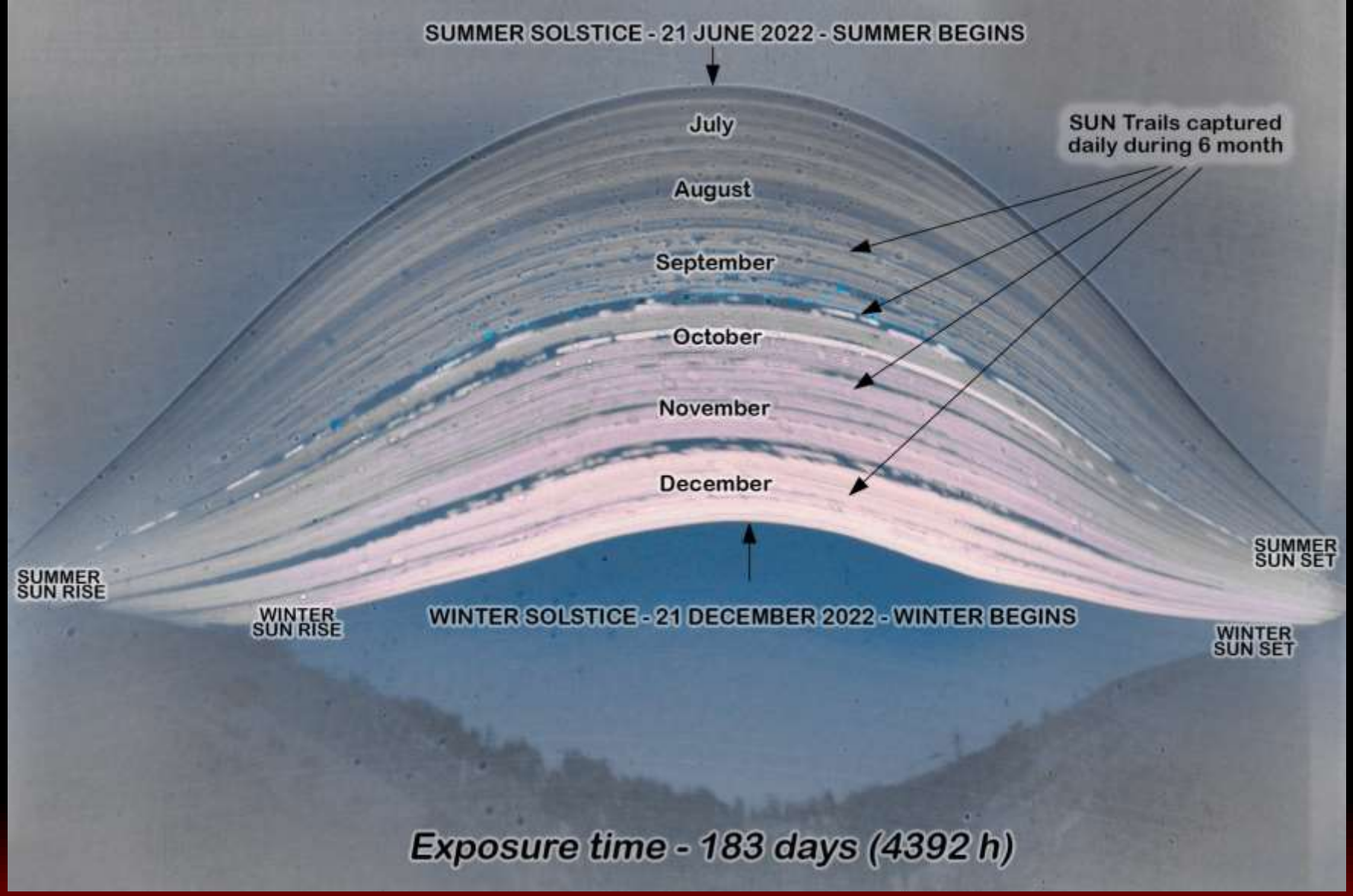
Ore T.U.

	Alba	Tramonto	Mezzogiorno solare	Durata del giorno
Mar, 19 dicembre	7:44	16:38	12:11	8:53:26
Mer, 20 dicembre	7:45	16:38	12:12	8:53:16
Gio, 21 dicembre	7:45	16:39	12:12	8:53:11
Ven, 22 dicembre	7:46	16:39	12:13	8:53:09
Sab, 23 dicembre	7:46	16:40	12:13	8:53:13

	Alba	Tramonto	Mezzogiorno solare	Durata del giorno
Mar, 18 giugno	5:27	21:04	13:15	15:36:22
Mer, 19 giugno	5:27	21:04	13:16	15:36:31
Gio, 20 giugno	5:28	21:04	13:16	15:36:35
Ven, 21 giugno	5:28	21:04	13:16	15:36:33
Sab, 22 giugno	5:28	21:05	13:16	15:36:29
Dom, 23 giugno	5:28	21:05	13:17	15:36:19

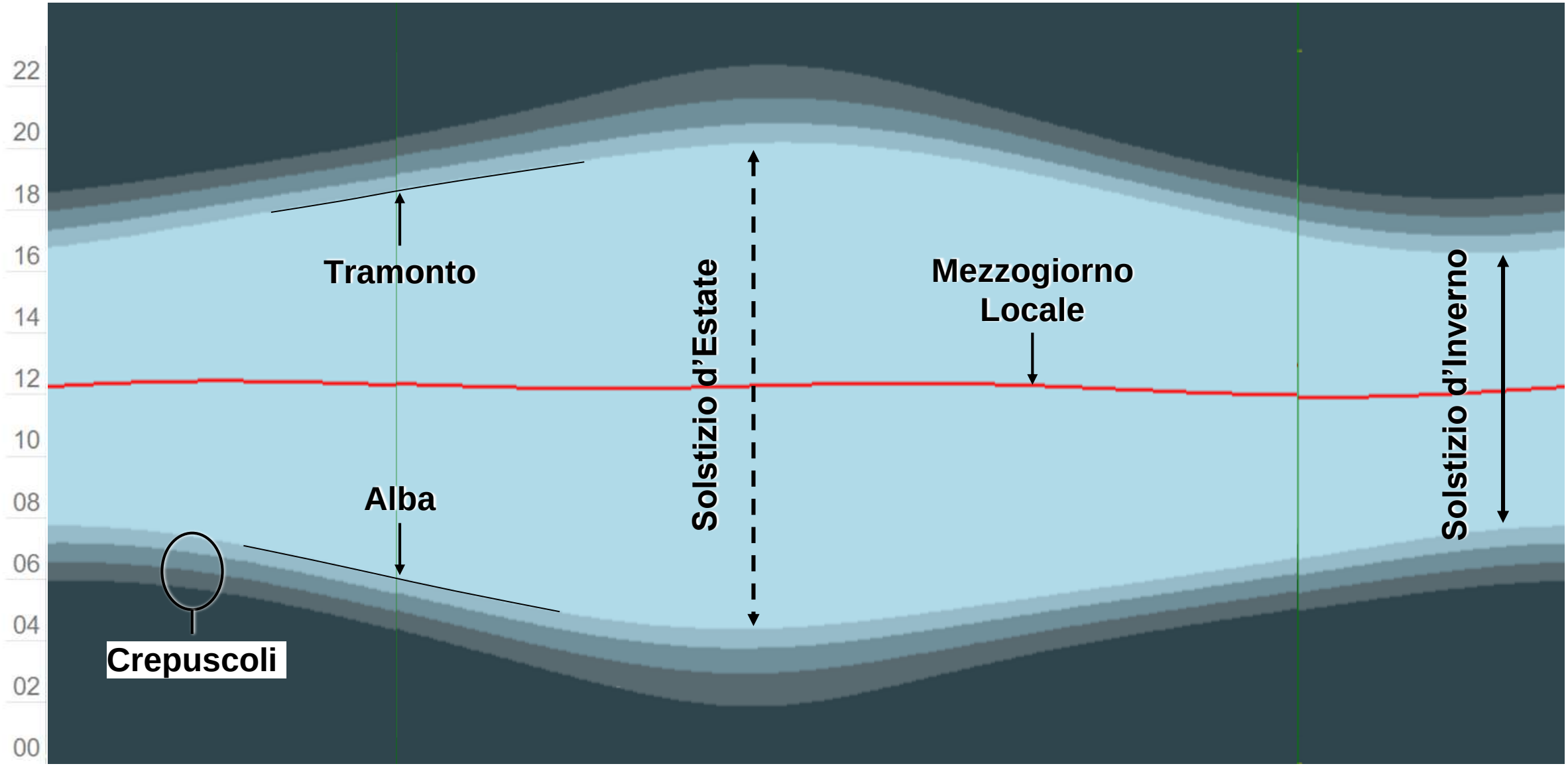

Durata del giorno durante l'anno
16
15
14
13
12
11
10
9
8
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

APOD
22 dic 23

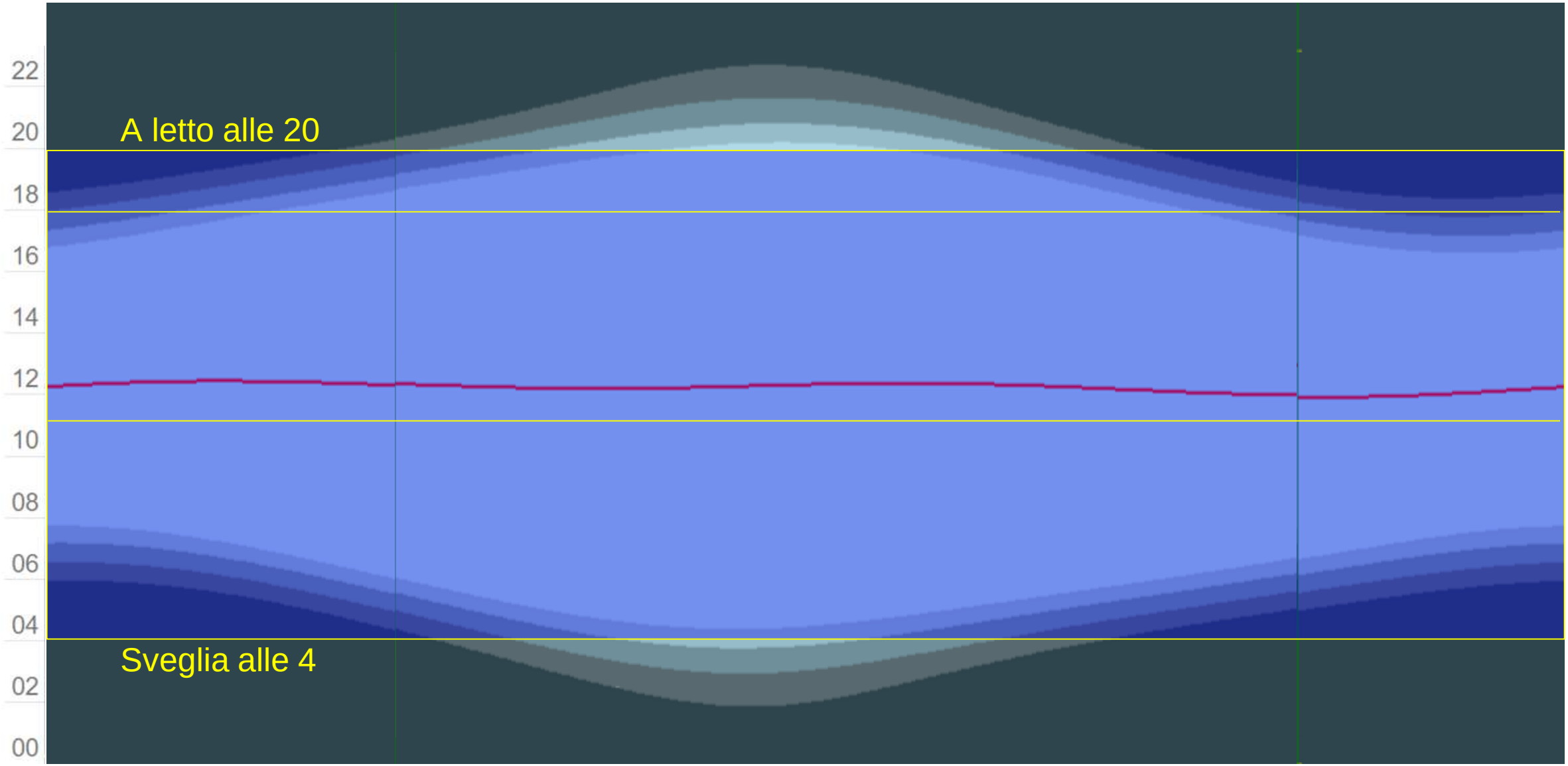


Una singola esposizione di 183 giorni con una macchina fotografica stenopeica e carta fotografica ha prodotto questo solaregrafo di lunga durata 21 giugno -21 dicembre 2022 -Terra da Mertola, in Portogallo

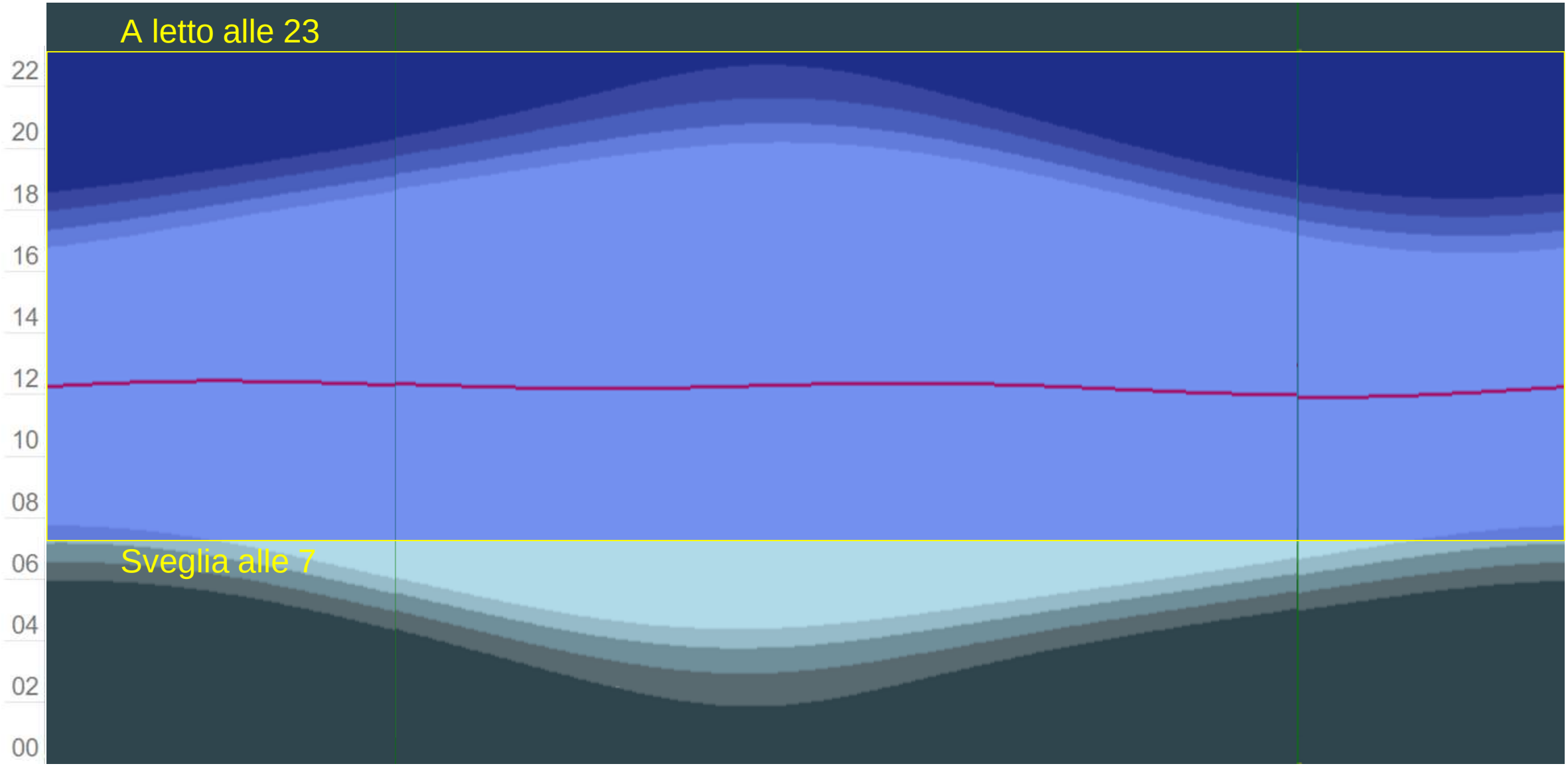
Le Ore di Luce (Italia)



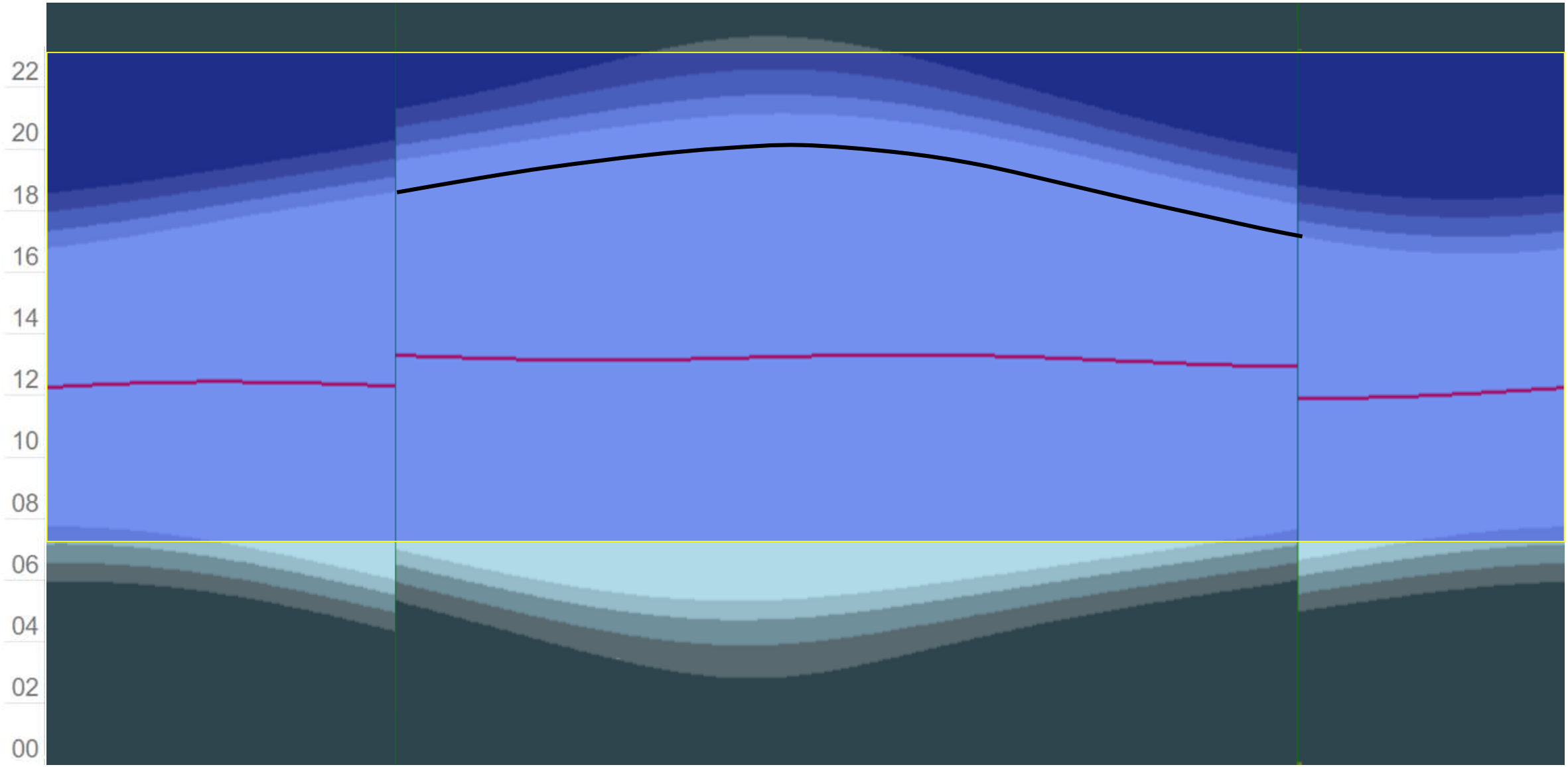
Come vivevano una volta (Italia - Bologna)



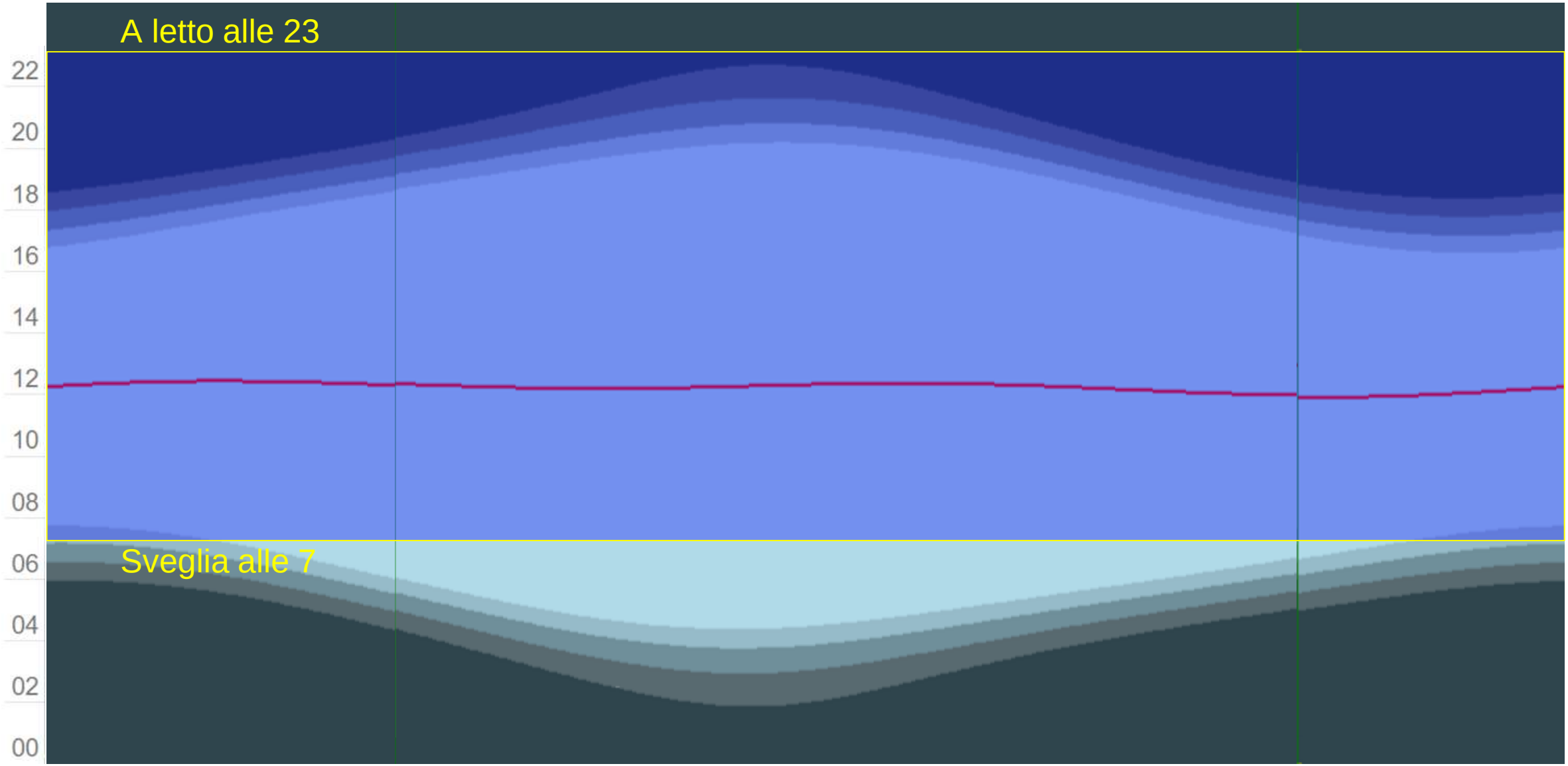
Come viviamo oggi (Italia)



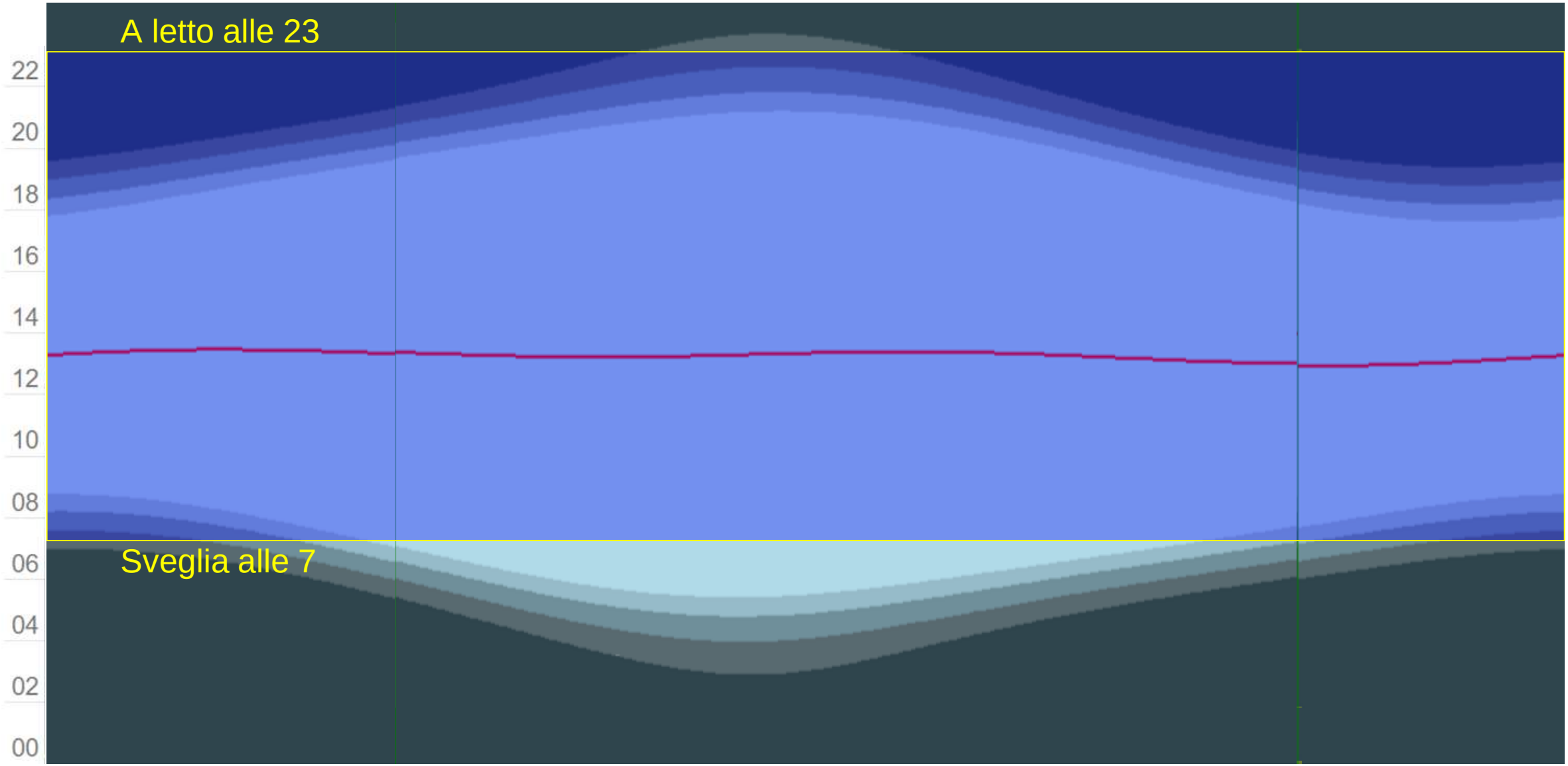
L’Ora Legale (Italia)



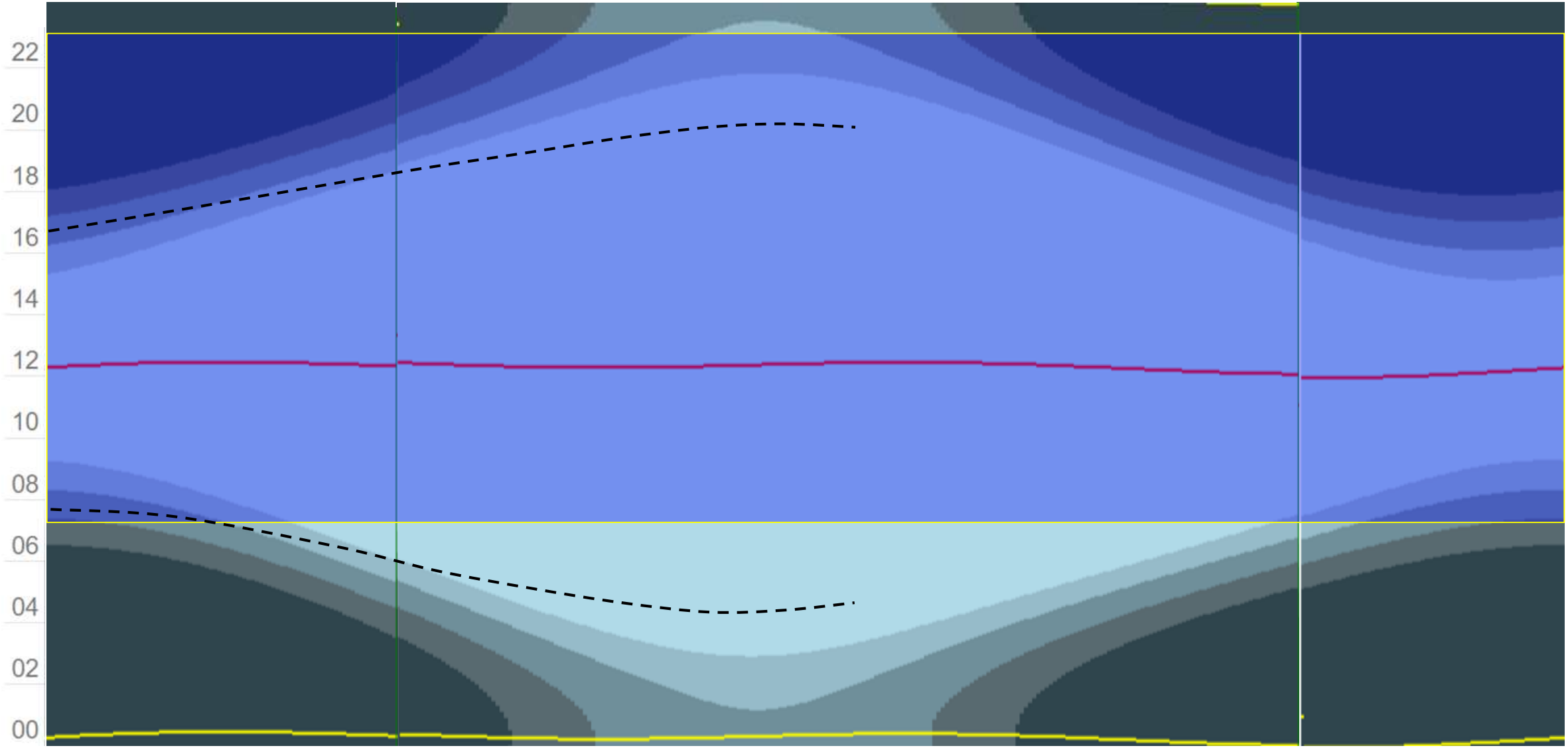
Sempre Ora Solare (Italia)



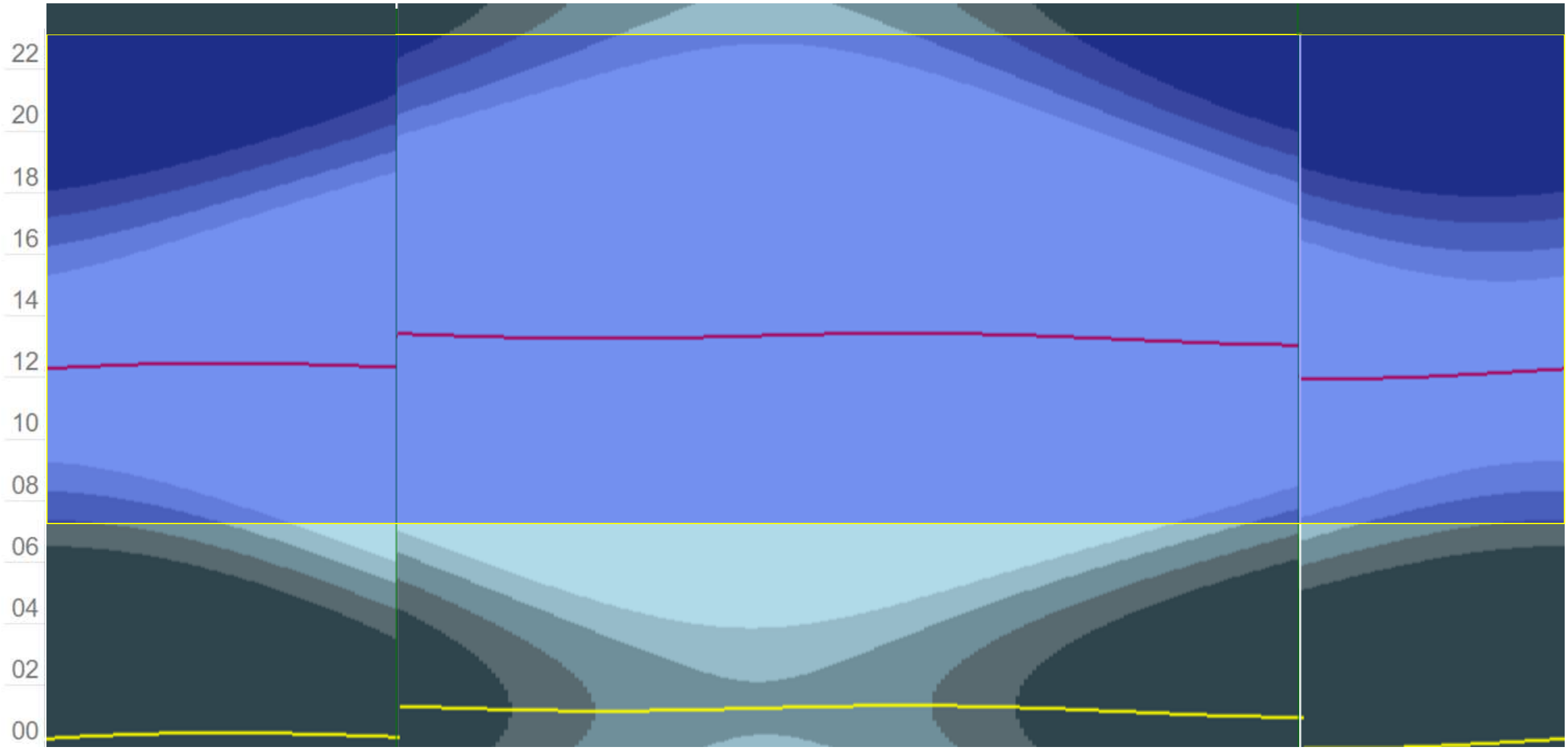
Sempre Ora Legale (Italia)



Senza Ora Legale (Svezia)

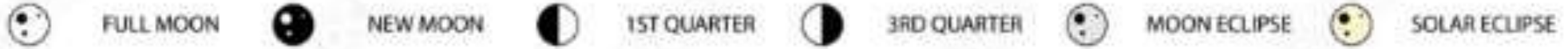


L’Ora Legale in Svezia



Ora legale nel 2023 minori consumi per 370 milioni di kWh, equivalenti a una riduzione di emissioni di CO_2 in atmosfera pari a 180 mila tonnellate, circa 90 M€

MOON PHASES CALENDAR 2024 - NORTHERN HEMISPHERE



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
JAN																															
FEB																															
MAR																															
APR																															
MAY																															
JUN																															
JUL																															
AUG																															
SEP																															
OCT																															
NOV																															
DEC																															

Le eclissi del 2024

25	marzo	eclisse di penombra di Luna	☹
8	aprile	eclisse totale di Sole	☹
18	settembre	eclisse di parziale di Luna	☺
2	ottobre	eclisse anulare di Sole	☹

sito web:
valeriominato.it

Penumbral Lunar Eclipse of 2024 Mar 25

Ecliptic Conjunction = 07:01:28.5 TD (= 07:00:14.6 UT)
Greatest Eclipse = 07:13:59.2 TD (= 07:12:45.2 UT)

Penumbral Magnitude = 0.9557 P. Radius = 1.1803° Gamma = 1.0609
Umbral Magnitude = -0.1325 U. Radius = 0.6457° Axis = 0.9564°

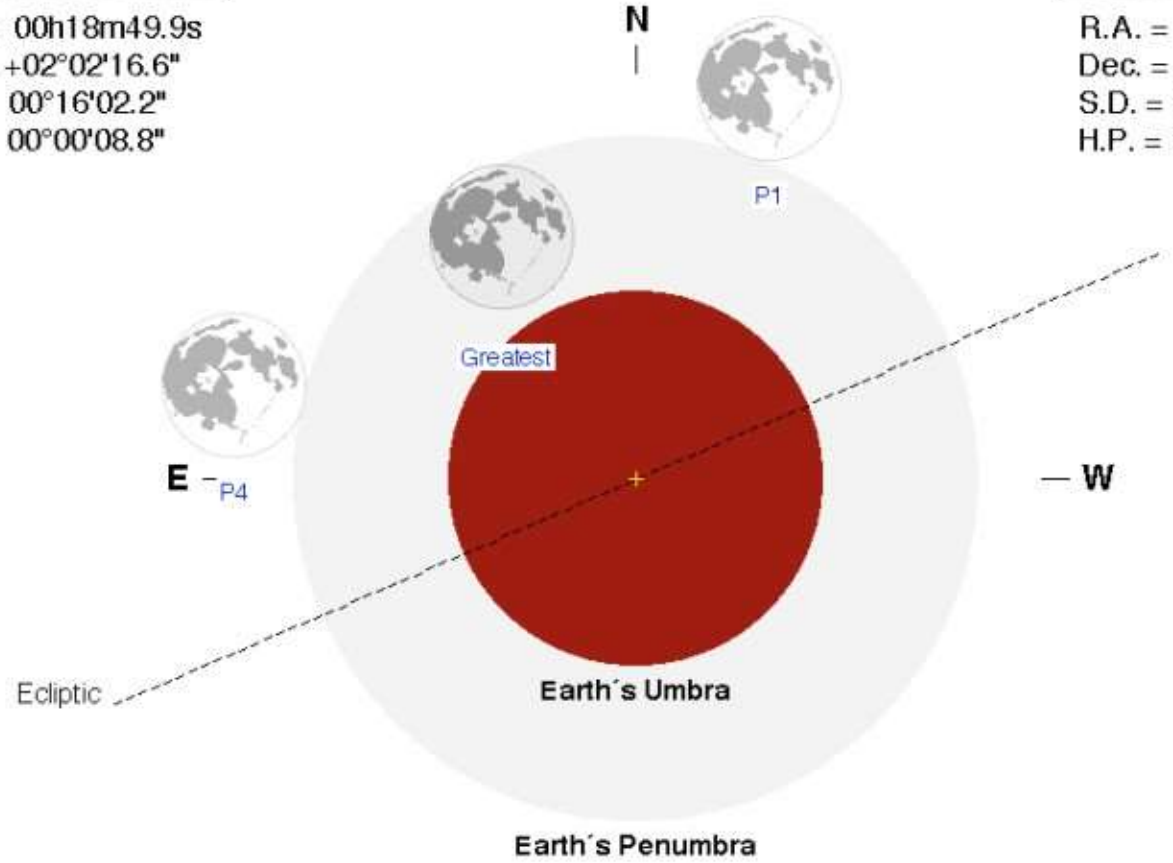
Saros Series = 113 Member = 64 of 71

Sun at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 00h18m49.9s
Dec. = +02°02'16.6"
S.D. = 00°16'02.2"
H.P. = 00°00'08.8"

Moon at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 12h20m41.3s
Dec. = -01°12'05.4"
S.D. = 00°14'44.3"
H.P. = 00°54'05.4"

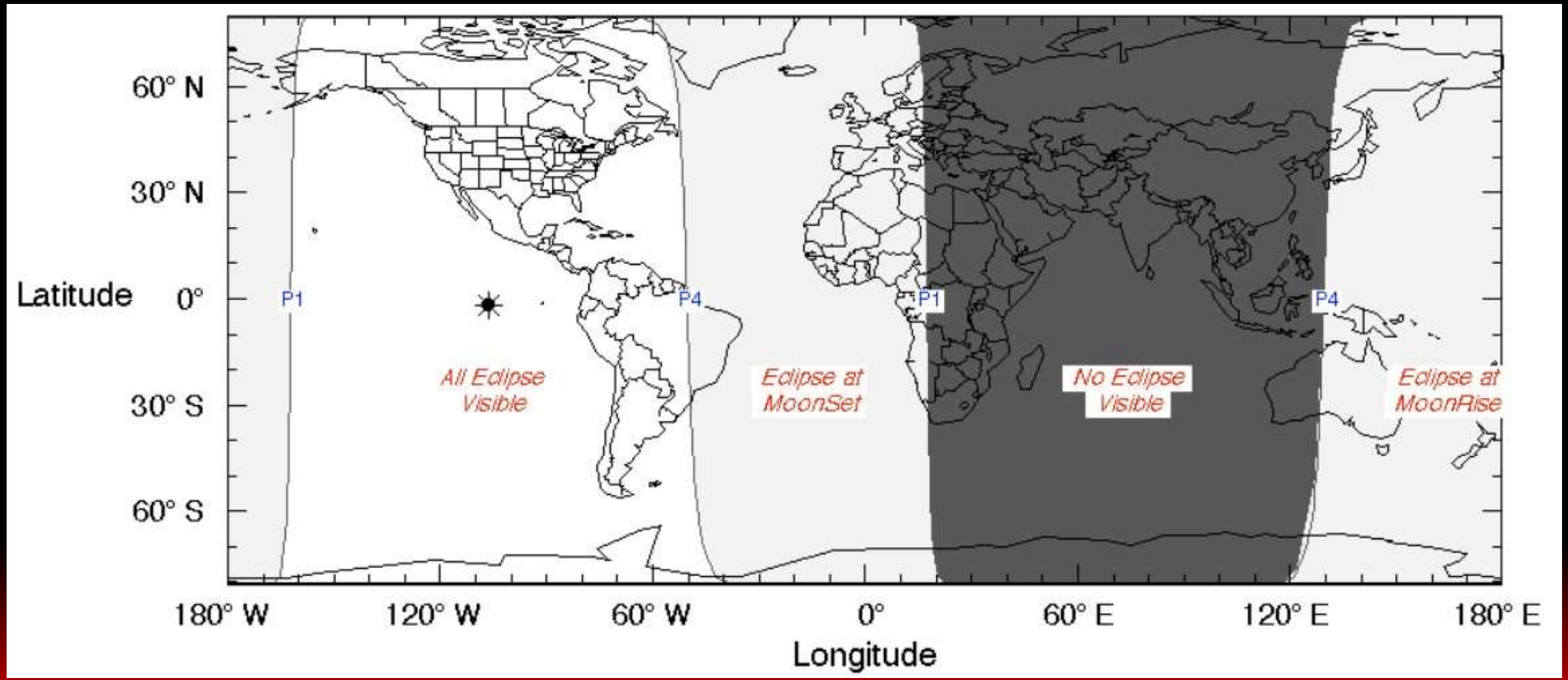


Eclipse Durations

Penumbral = 04h39m07s

Eclipse Contacts

P1 = 04:53:11 UT
P4 = 09:32:18 UT

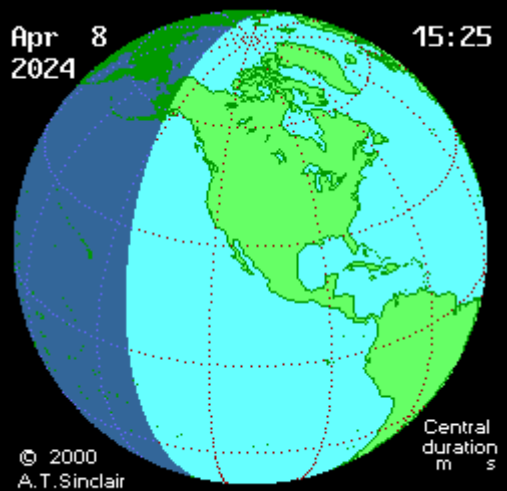

60° N
30° N
Latitude
0°
30° S
60° S
P1
P4
P1
P4
All Eclipse Visible
Eclipse at MoonSet
No Eclipse Visible
Eclipse at MoonRise
180° W
120° W
60° W
0°
60° E
120° E
180° E
Longitude

Total Solar Eclipse of 2024 Apr 08

Geocentric Conjunction = 18:36:02.5 UT J.D. = 2460409.275029
Greatest Eclipse = 18:17:13.1 UT J.D. = 2460409.261957

Eclipse Magnitude = 1.0565 Gamma = 0.3432

Saros Series = 139 Member = 30 of 71



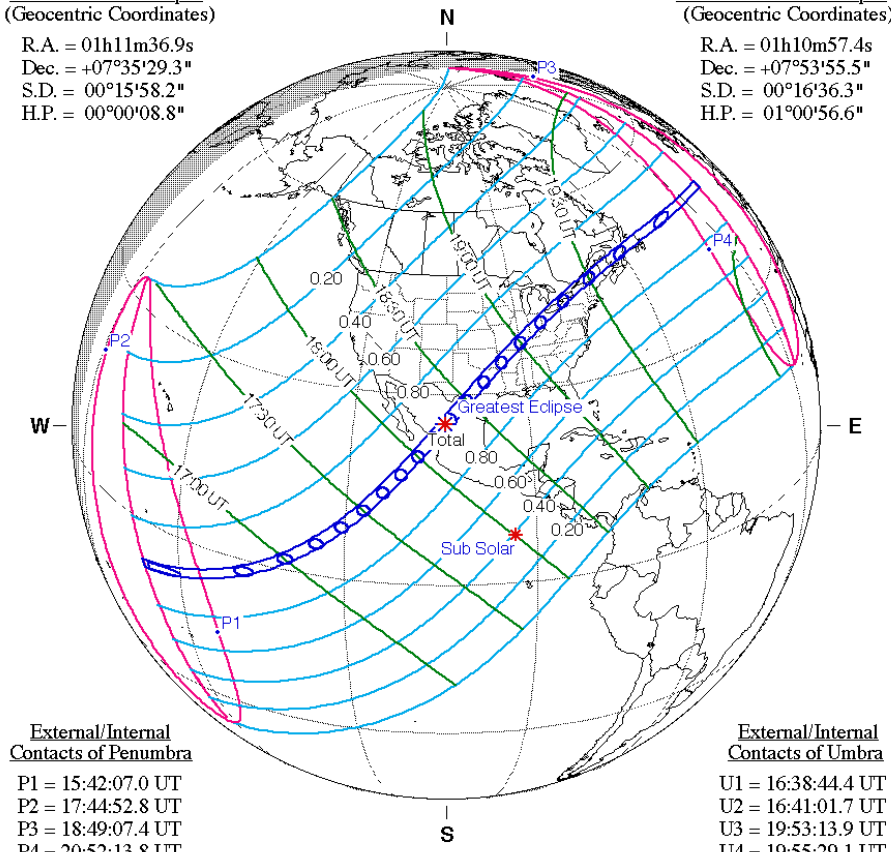
sunearth.gsfc.nasa.gov/eclipse

Sun at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 01h11m36.9s
Dec. = +07°35'29.3"
S.D. = 00°15'58.2"
H.P. = 00°00'08.8"

Moon at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 01h10m57.4s
Dec. = +07°53'55.5"
S.D. = 00°16'36.3"
H.P. = 01°00'56.6"



External/Internal Contacts of Penumbra

P1 = 15:42:07.0 UT
P2 = 17:44:52.8 UT
P3 = 18:49:07.4 UT
P4 = 20:52:13.8 UT

External/Internal Contacts of Umbra

U1 = 16:38:44.4 UT
U2 = 16:41:01.7 UT
U3 = 19:53:13.9 UT
U4 = 19:55:29.1 UT

Local Circumstances at Greatest Eclipse

Lat. = 25°17.5'N Sun Alt. = 69.8°
Long. = 104°07.2'W Sun Azm. = 149.4°
Path Width = 197.5 km Duration = 04m28.1s

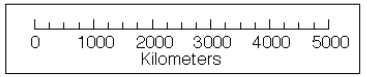
Ephemeris & Constants

Eph. = Newcomb/ILE
ΔT = 81.2 s
k1 = 0.2724880
k2 = 0.2722810
Δb = 0.0" Δl = 0.0"

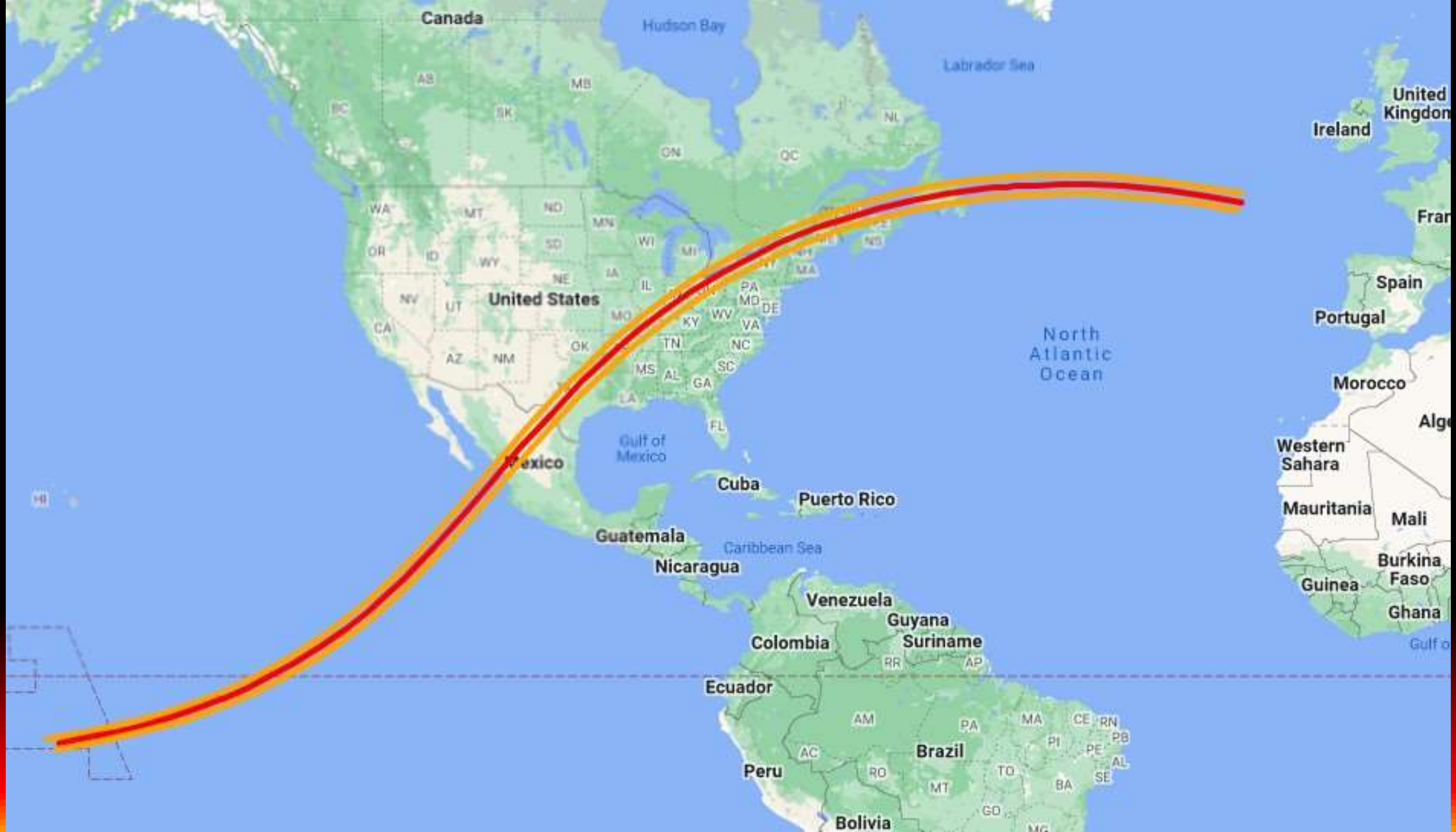
Geocentric Libration
(Optical + Physical)

l = 2.00°
b = -0.46°
c = -20.75°

Brown Lun. No. = 1253



F. Espenak, NASA's GSFC - Fri, Jul 2,
sunearth.gsfc.nasa.gov/eclipse/eclipse.html


Canada
Hudson Bay
Labrador Sea
United Kingdom
Ireland
France
Spain
Portugal
United States
North Atlantic Ocean
Morocco
Western Sahara
Mauritania
Mali
Burkina Faso
Guinea
Ghana
Gulf of Mexico
Mexico
Cuba
Puerto Rico
Guatemala
Nicaragua
Caribbean Sea
Venezuela
Guyana
Suriname
Colombia
Ecuador
Peru
Brazil
Bolivia
WA
OR
CA
ID
NV
MT
WY
UT
AZ
CO
NM
ND
SD
NE
KS
OK
TX
MN
IA
MO
AR
LA
WI
IL
MS
MI
IN
KY
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AL
OH
WV
GA
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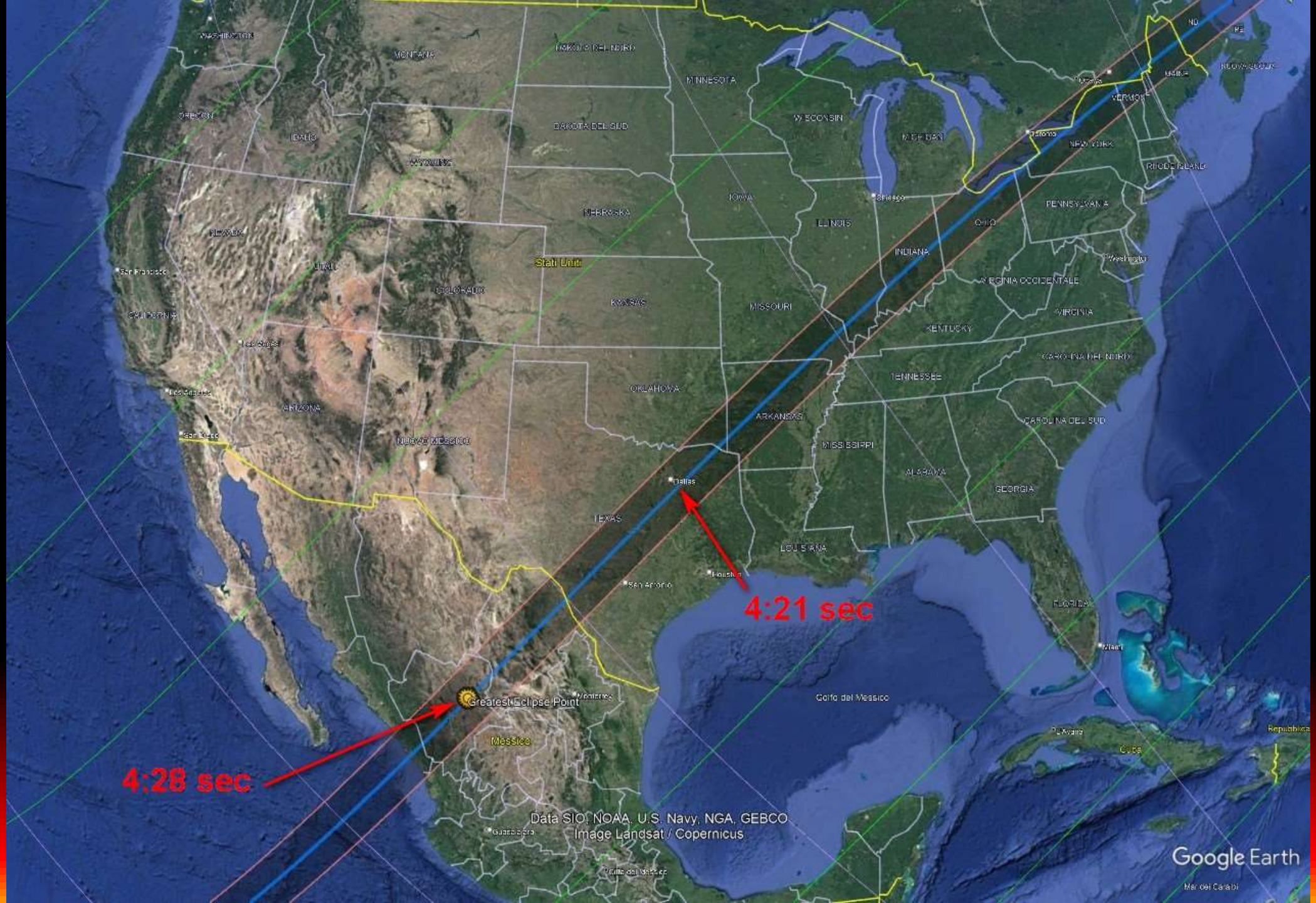
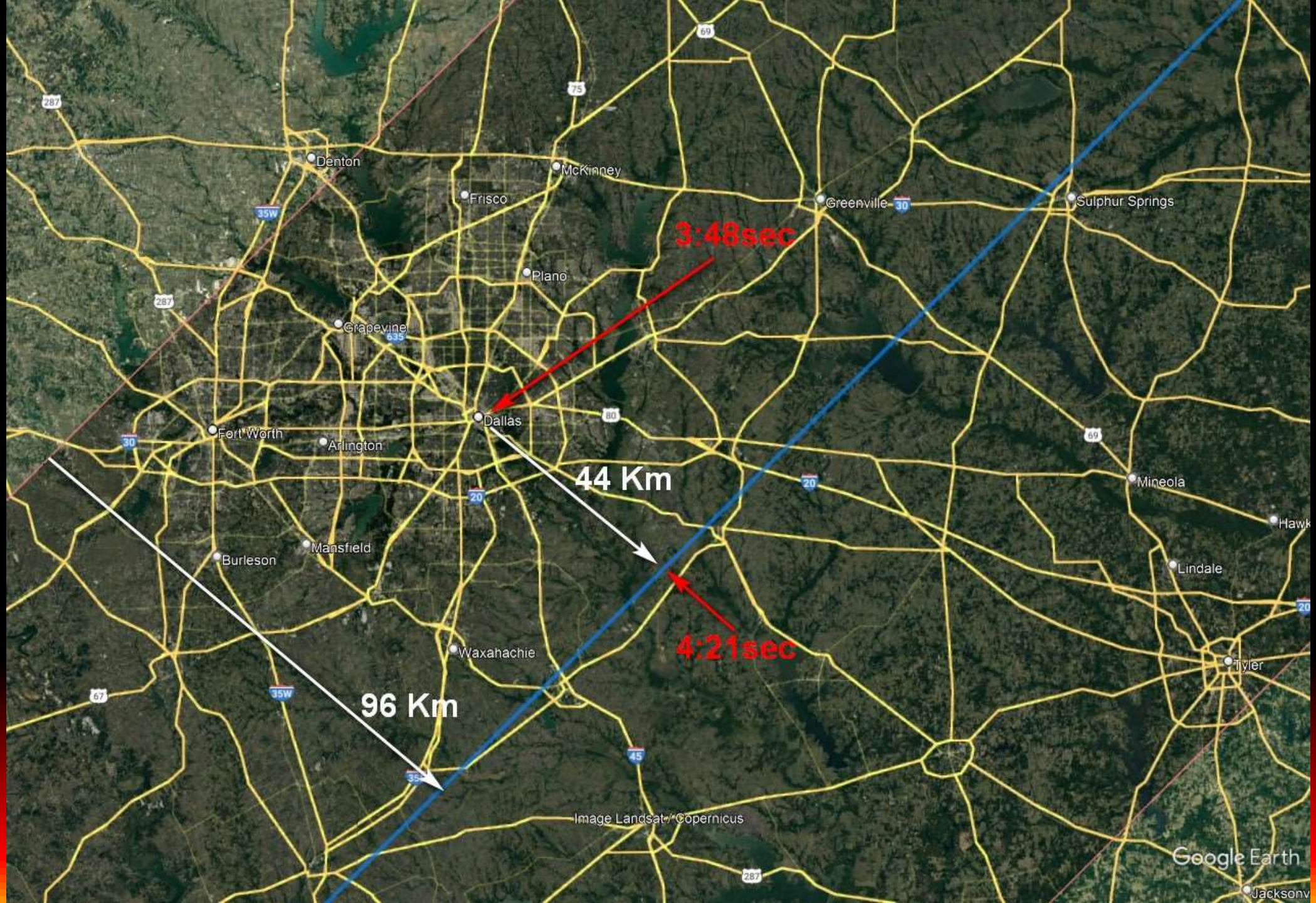
MG


4:21 sec
4:28 sec
Greatest Eclipse Point
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus
Google Earth

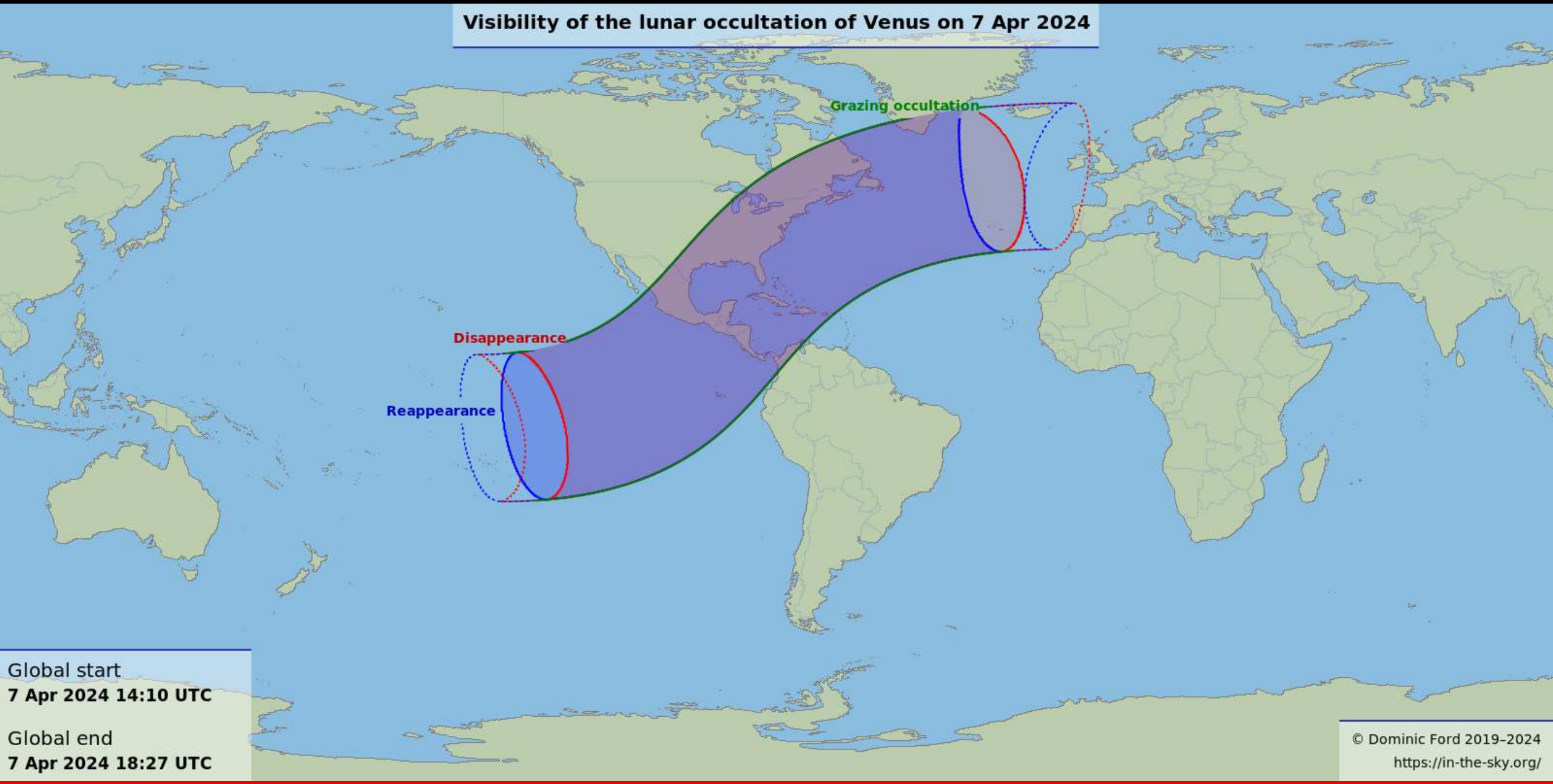

Denton
McKinney
Frisco
Greenville
Sulphur Springs
3:48sec
Plano
Grapevine
Dallas
Fort Worth
Arlington
44 Km
Mineola
Mansfield
Burleson
Lindale
4:21sec
Waxahachie
Tyler
96 Km
Image Landsat / Copernicus
Google Earth

UNIONE ASTROFILI ITALIANI

USA SPACE TOUR, ECLISSE TOTALE DI SOLE, FLORIDA E TEXAS

In viaggio per il Messico per ammirare l'eclissi totale di Sole

Visibility of the lunar occultation of Venus on 7 Apr 2024



Global start
7 Apr 2024 14:10 UTC

Global end
7 Apr 2024 18:27 UTC

Partial Lunar Eclipse of 2024 Sep 18

Ecliptic Conjunction = 02:35:37.1 TD (= 02:34:22.9 UT)
Greatest Eclipse = 02:45:24.7 TD (= 02:44:10.5 UT)

Penumbral Magnitude = 1.0372 P. Radius = 1.3003° Gamma = -0.9792
Umbral Magnitude = 0.0848 U. Radius = 0.7697° Axis = 1.0010°

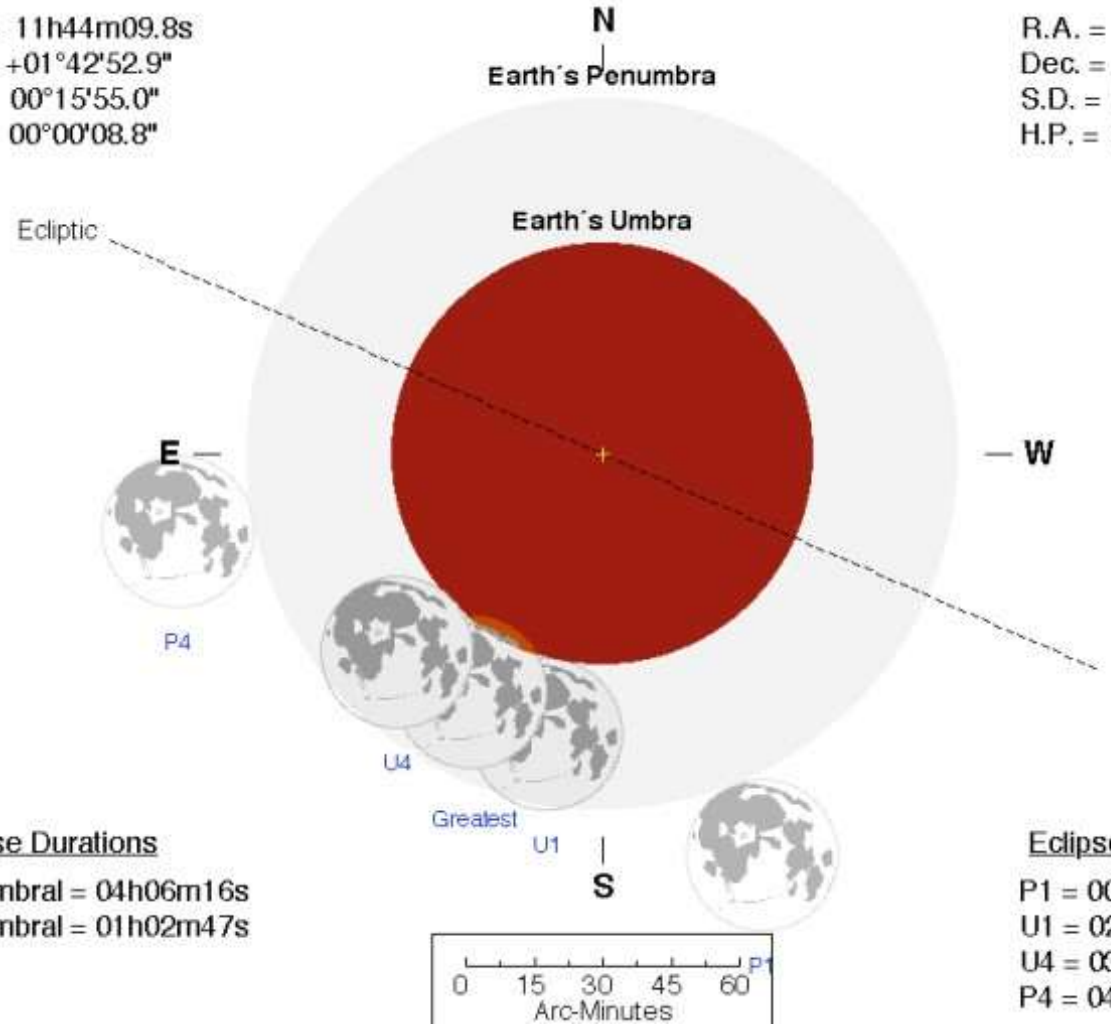
Saros Series = 118 Member = 52 of 74

Sun at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 11h44m09.8s
Dec. = +01°42'52.9"
S.D. = 00°15'55.0"
H.P. = 00°00'08.8"

Moon at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 23h46m06.0s
Dec. = -02°35'26.8"
S.D. = 00°16'42.8"
H.P. = 01°01'20.4"



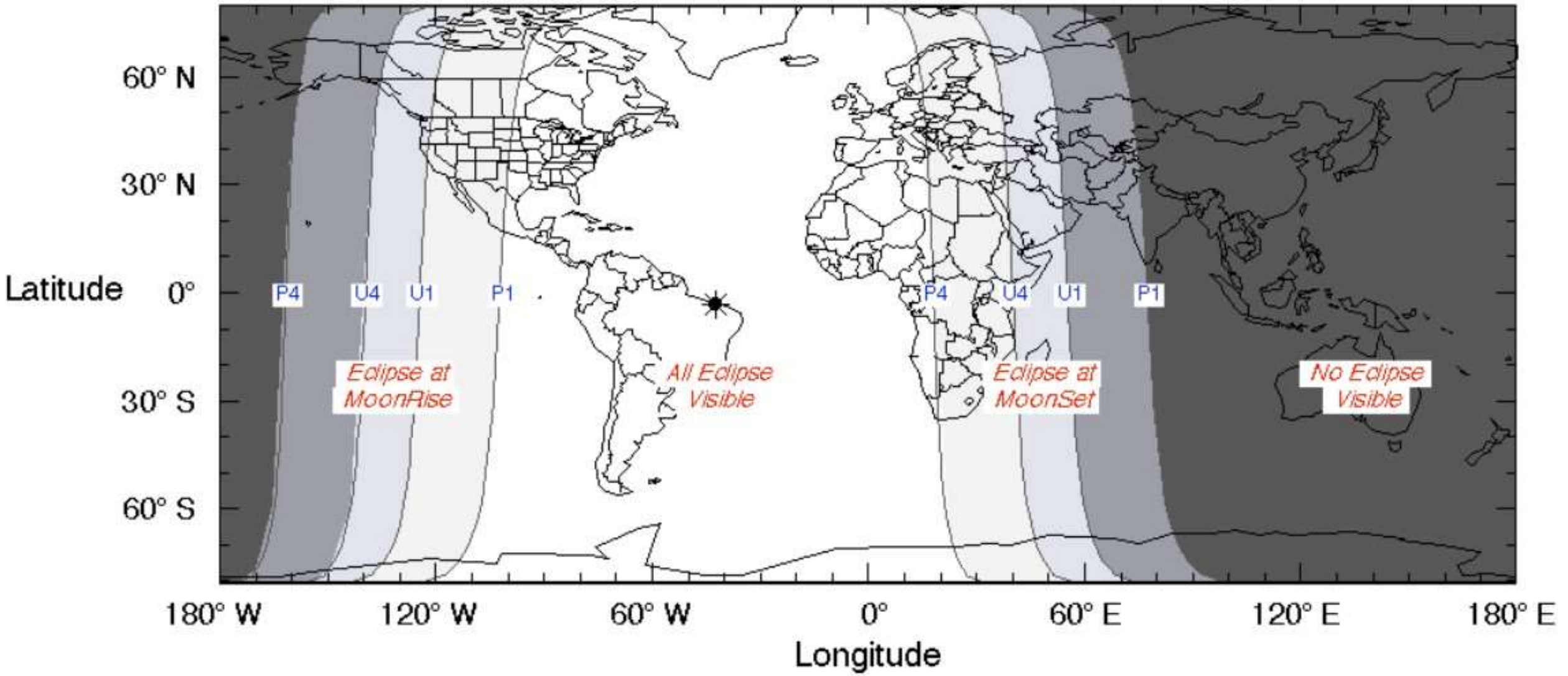
Eclipse Durations

Penumbral = 04h06m16s
Umbral = 01h02m47s

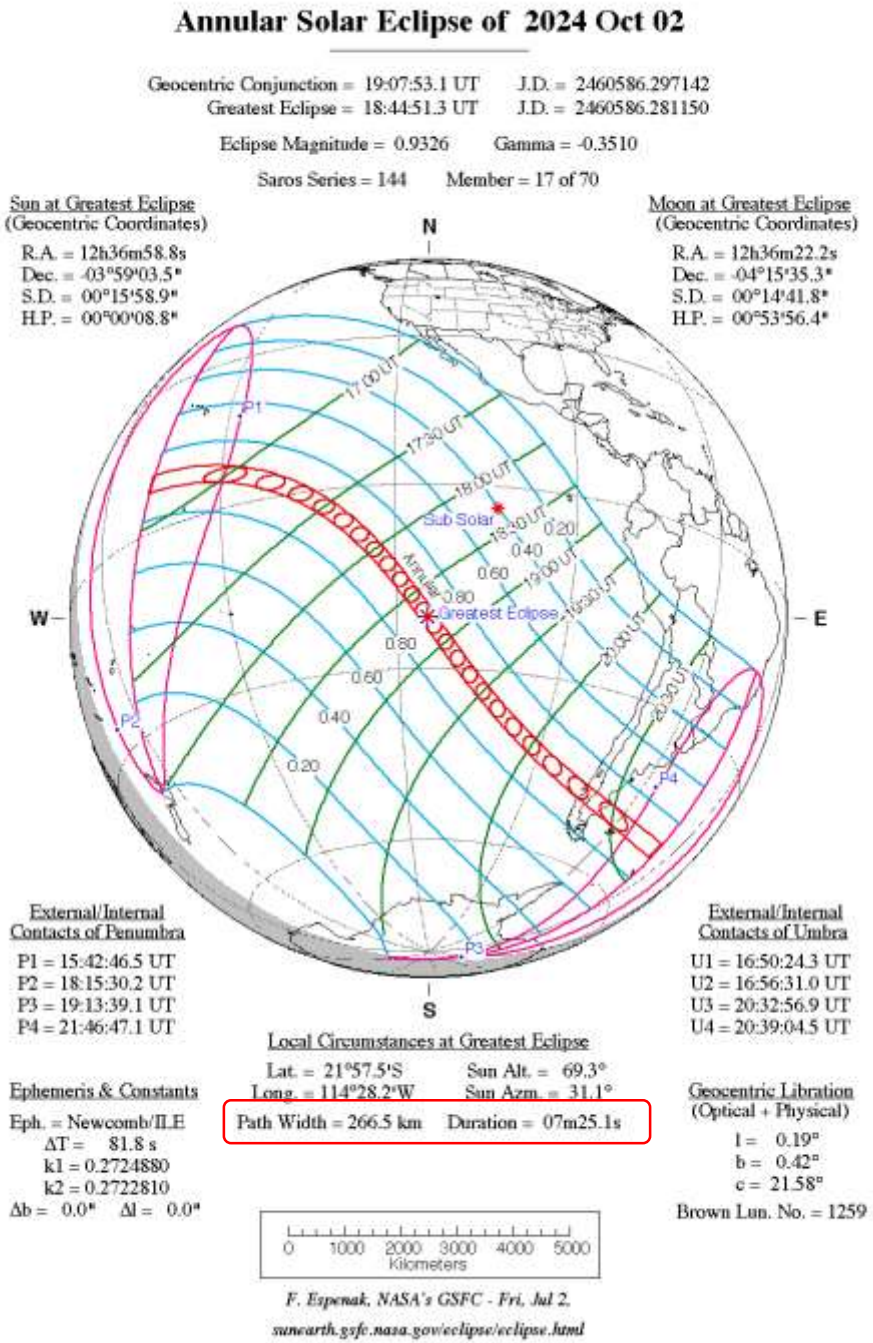
Eclipse Contacts

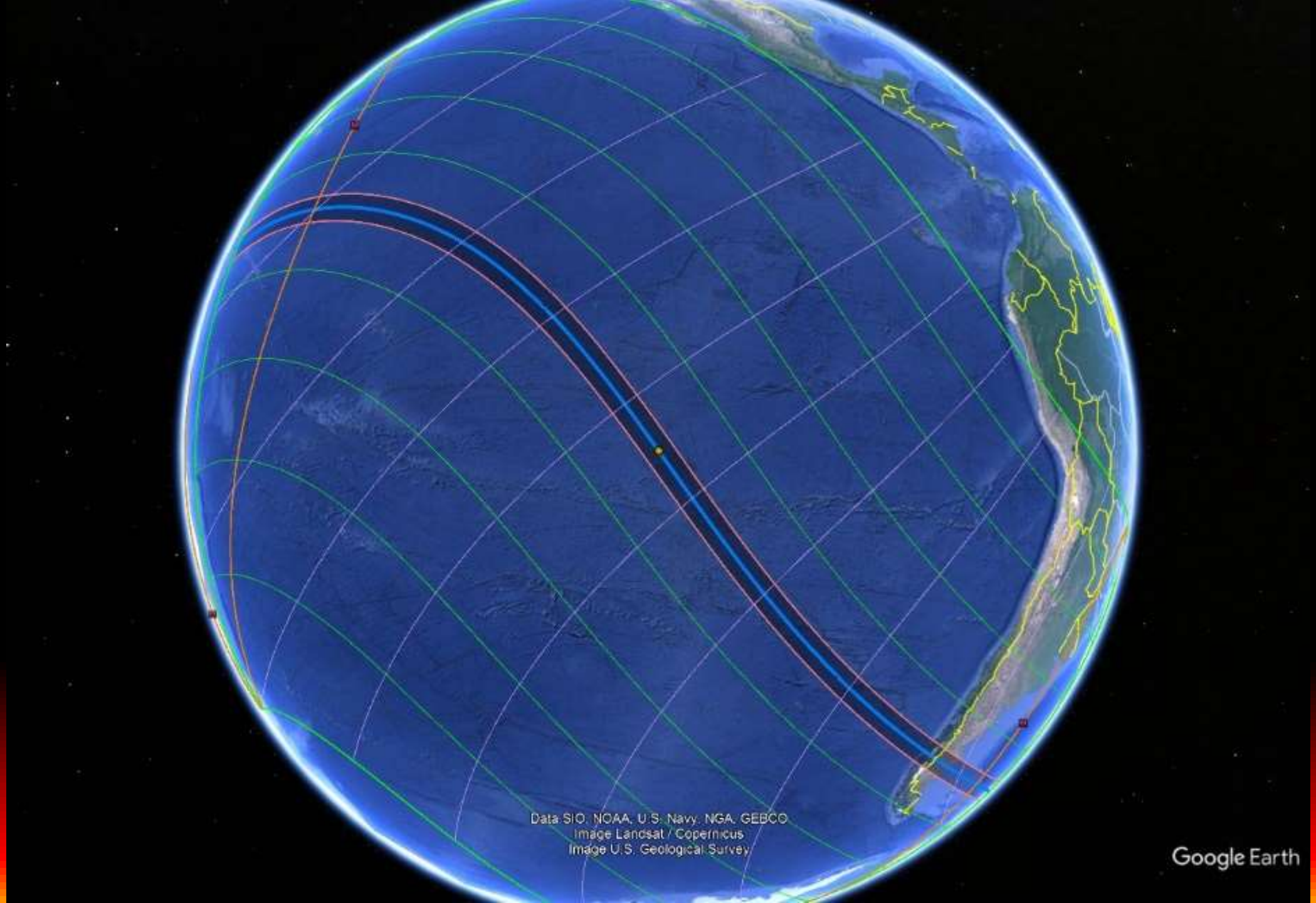
P1 = 00:41:02 UT
U1 = 02:12:48 UT
U4 = 03:15:35 UT
P4 = 04:47:18 UT

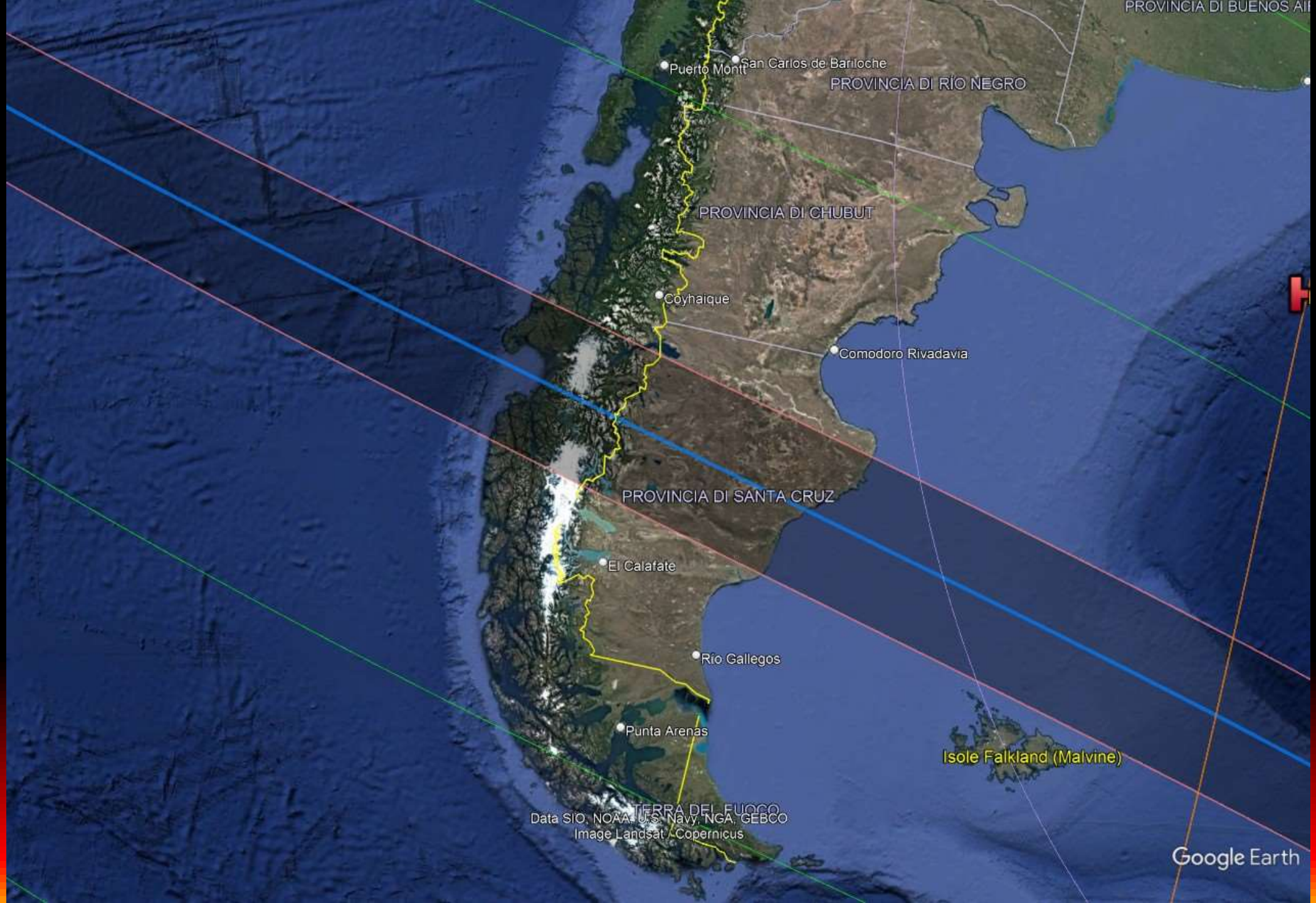
D.Alboresi - AAB

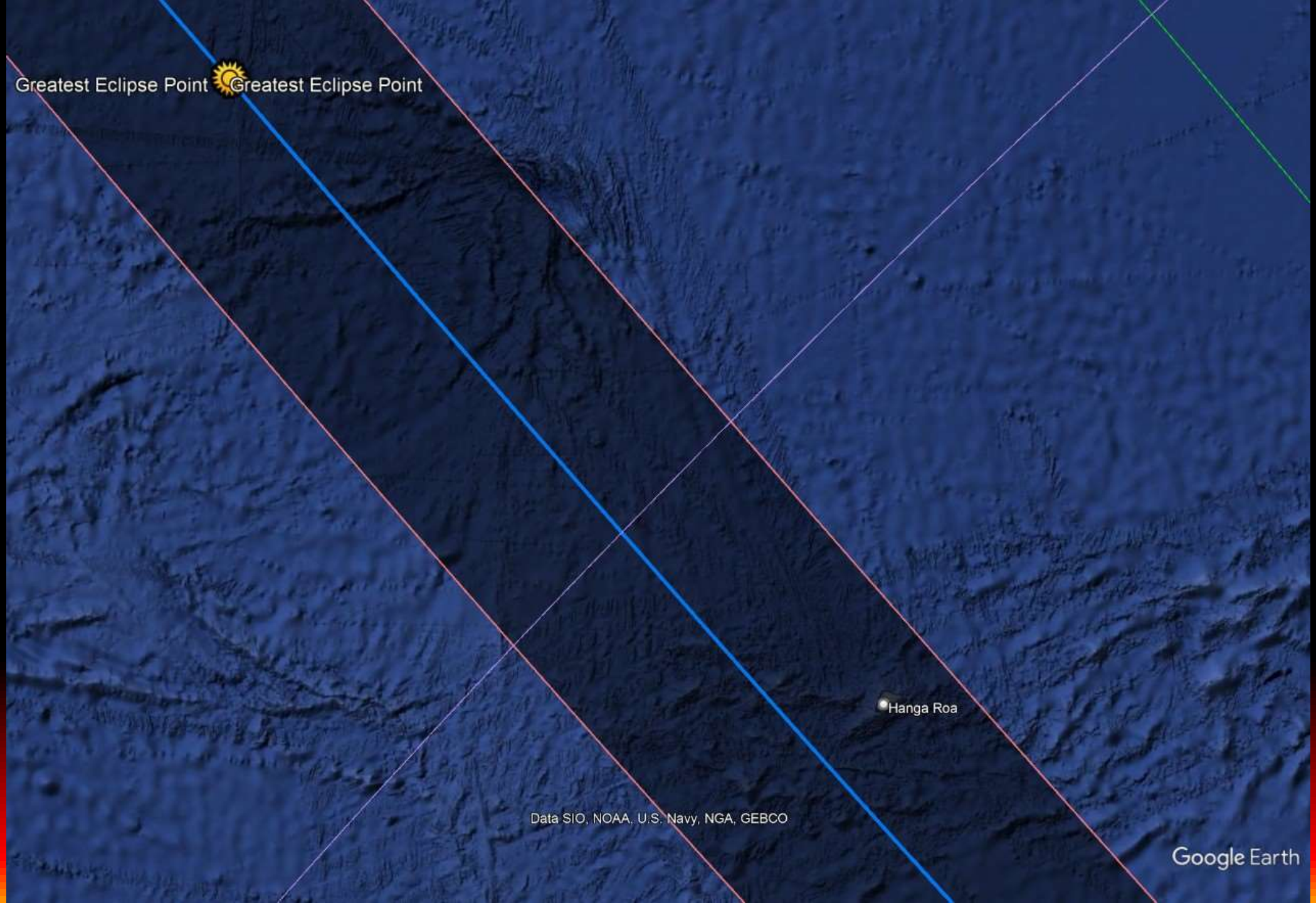

60° N
30° N
Latitude
0°
30° S
60° S
P4
U4
U1
P1
Eclipse at MoonRise
All Eclipse Visible
P4
U4
U1
P1
Eclipse at MoonSet
No Eclipse Visible
180° W
120° W
60° W
0°
60° E
120° E
180° E
Longitude

Luna all’apogeo 409700 Km - diametro apparente di 29’,22
Sole con un diametro apparente di 31’,96




Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus
Image U.S. Geological Survey
Google Earth


PROVINCIA DI BUENOS AI
Puerto Montt
San Carlos de Bariloche
PROVINCIA DI RÍO NEGRO
PROVINCIA DI CHUBUT
Coyhaique
Comodoro Rivadavia
PROVINCIA DI SANTA CRUZ
El Calafate
Río Gallegos
Punta Arenas
Isole Falkland (Malvine)
TERRA DEL FUOCO
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus
Google Earth

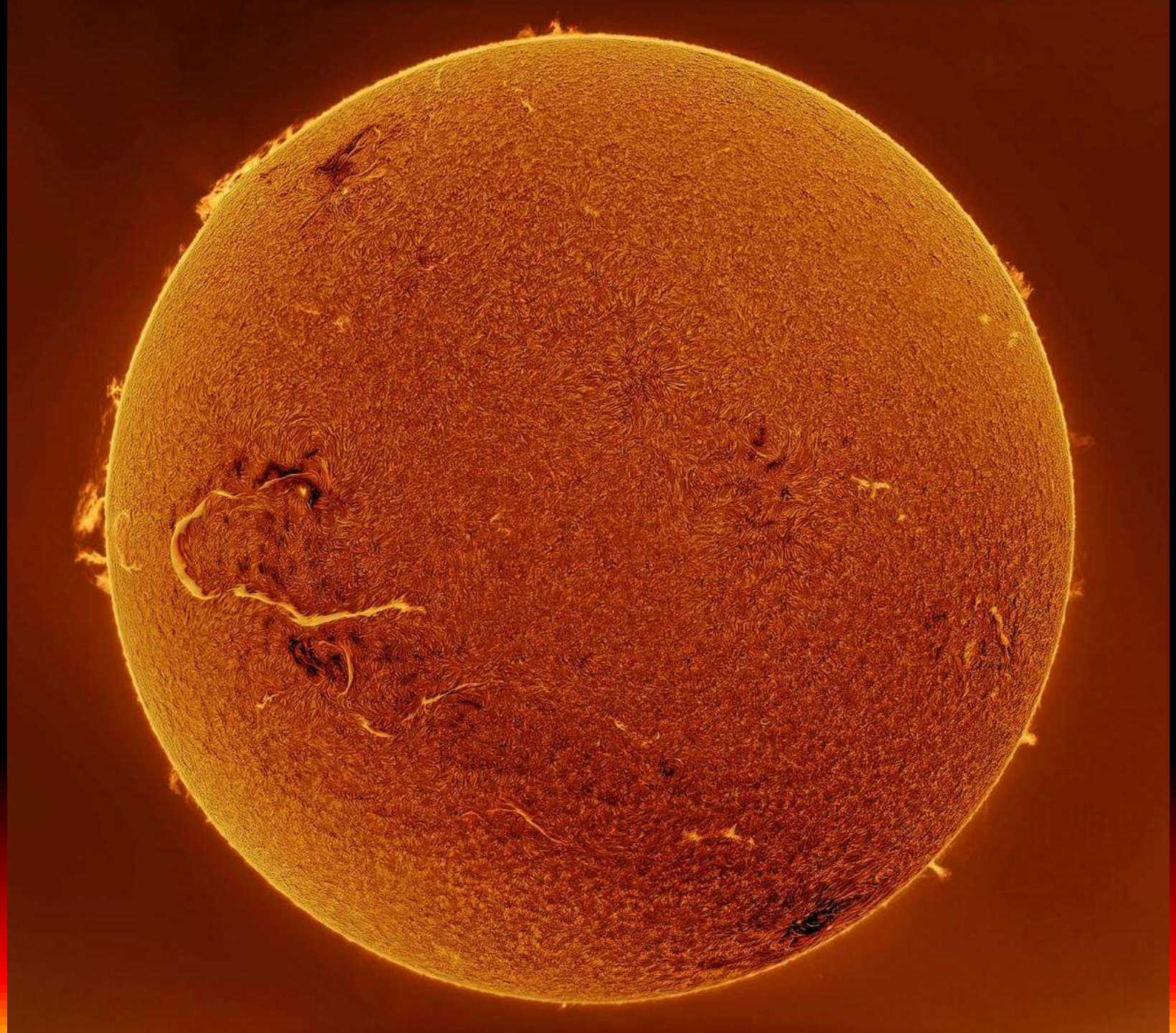

Greatest Eclipse Point
Greatest Eclipse Point
Hanga Roa
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Google Earth


Isla de Pascua
Hanga Roa
Data SIO, NOAA, U.S
Data LDEO-Colu
Image Landsa
© Stéphane Guisard

APOD 31/5/2022
Di Michael Cain

APOD 13/9/2022
Di Alan Friedman
www.avertedimagination.com

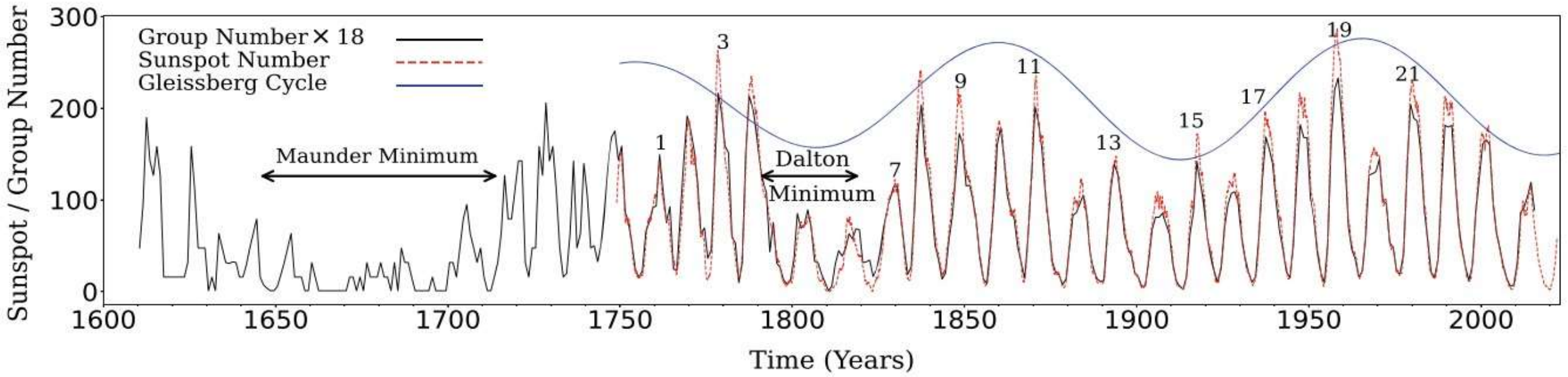
di Mehmet Ergün
da Traisen, Germania,
il 4 settembre 2022

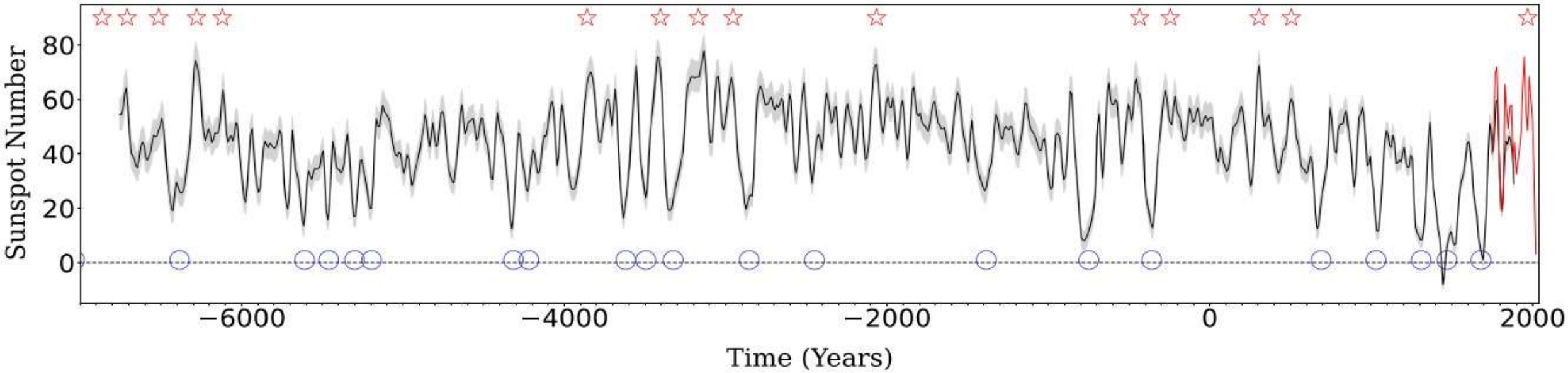


SOLAR **MINIMUM**

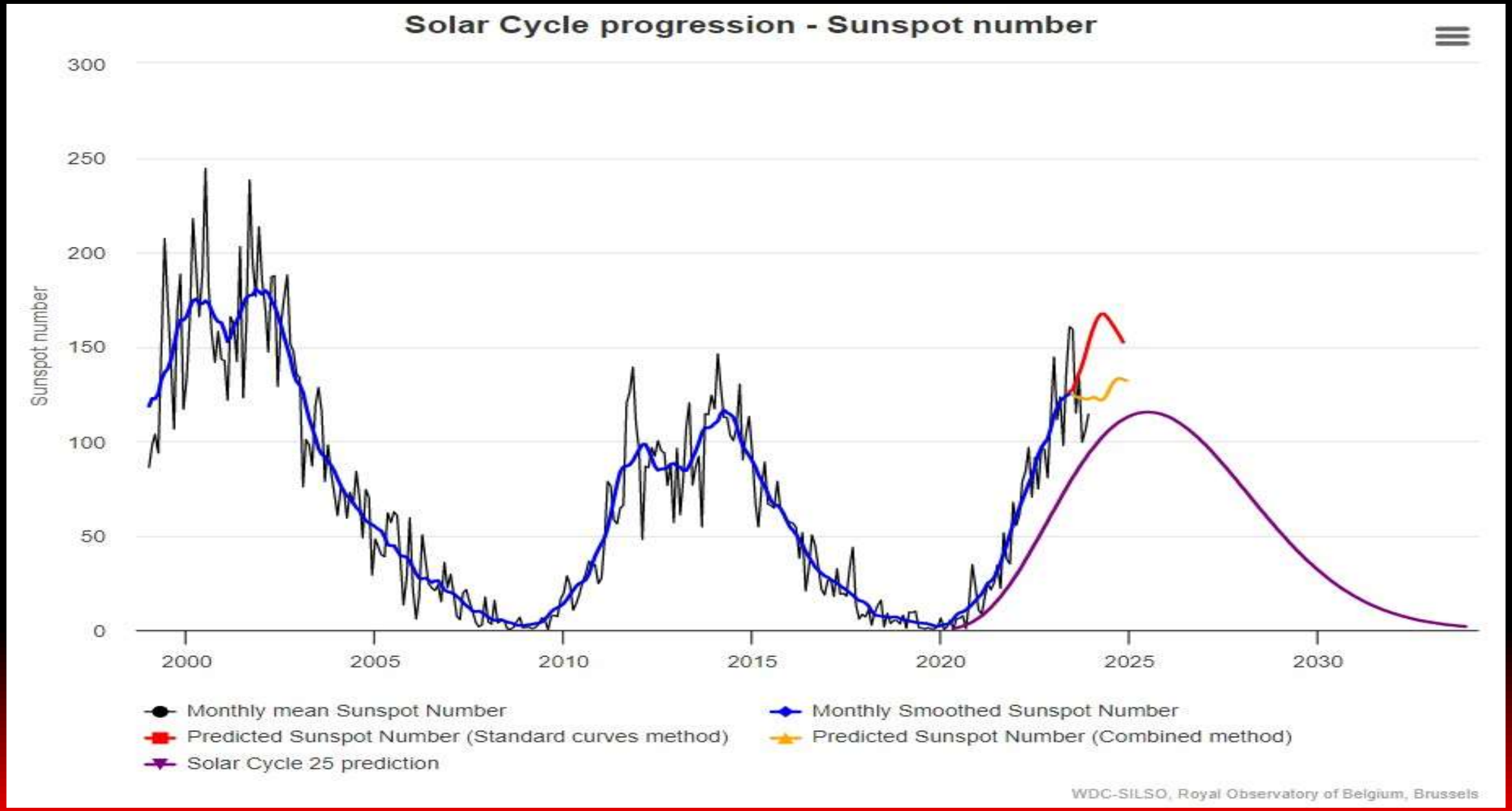
SOLAR **MAXIMUM**

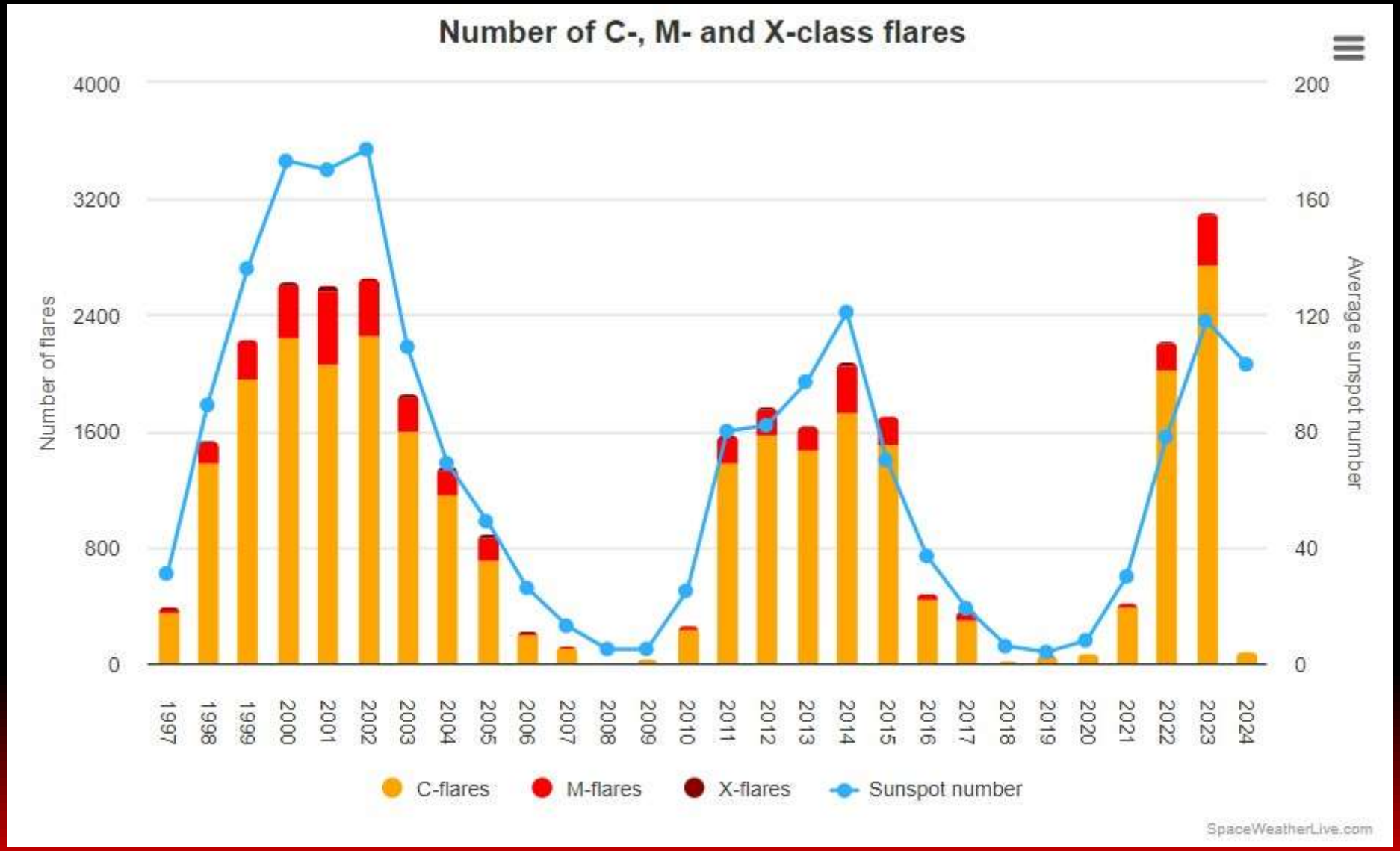
Numero di macchie solari negli ultimi 400 anni





APOD 6/11/2023
Giorgia Hofer
www.giorgiahoferphotography.com


Solar Cycle progression - Sunspot number
Sunspot number
300
250
200
150
100
50
0
2000
2005
2010
2015
2020
2025
2030
Monthly mean Sunspot Number
Monthly Smoothed Sunspot Number
Predicted Sunspot Number (Standard curves method)
Predicted Sunspot Number (Combined method)
Solar Cycle 25 prediction
WDC-SILSO, Royal Observatory of Belgium, Brussels


Number of C-, M- and X-class flares
Number of flares
Average sunspot number
4000
3200
2400
1600
800
0
200
160
120
80
40
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
C-flares
M-flares
X-flares
Sunspot number
SpaceWeatherLive.com

APOD 12/12/2023 - di Giulio Cobianchi

APOD 23/12/2023
Aurora in Nuova Zelanda
di Ian Griffin

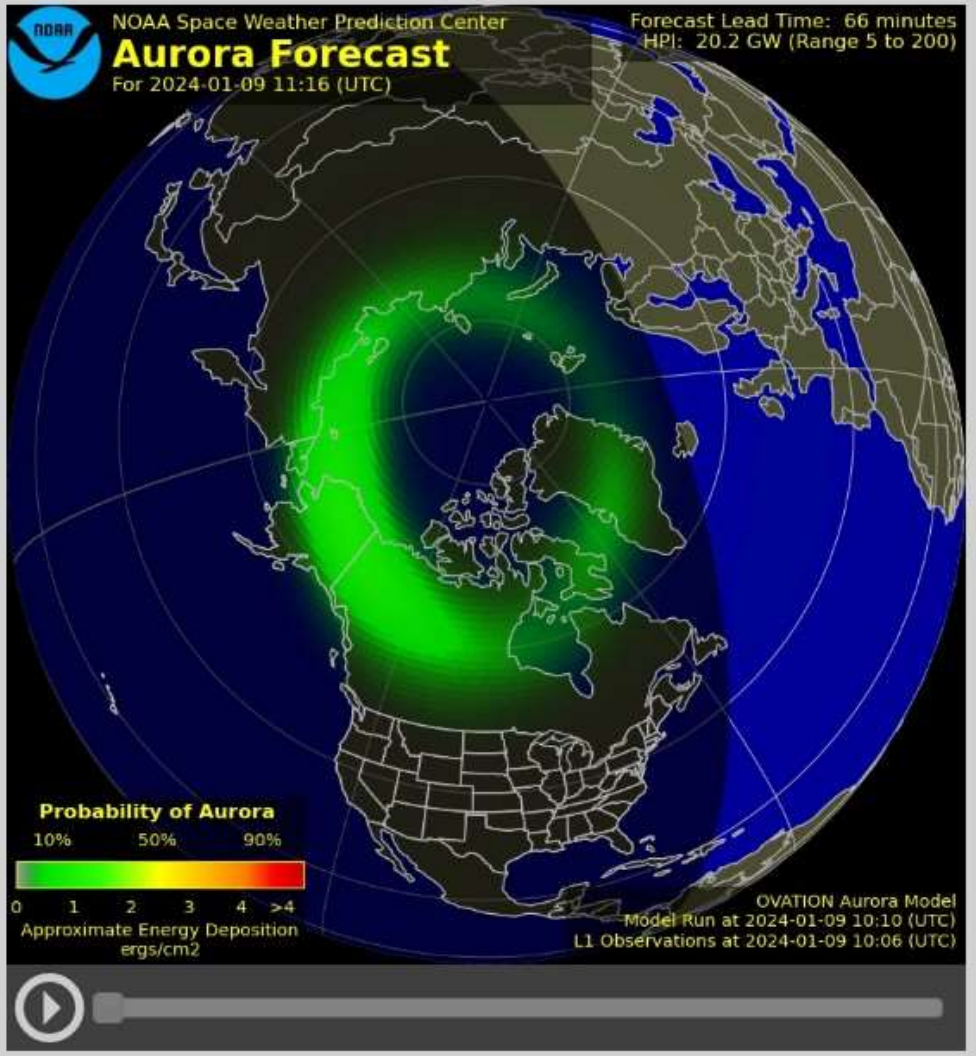
www.swpc.noaa.gov/products/aurora-30-minute-forecast

CURRENT SPACE WEATHER CONDITIONS on NOAA Scales

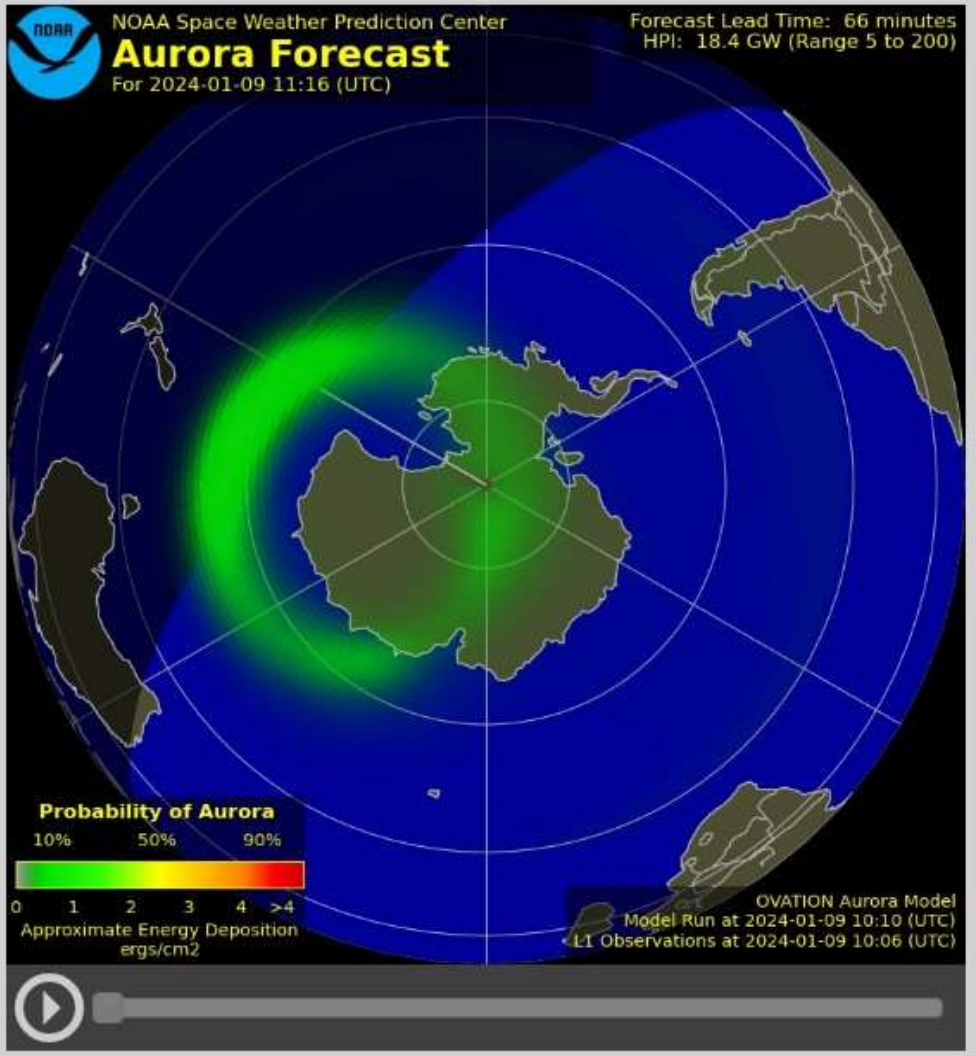
R none S none G none

AURORA - 30 MINUTE FORECAST

NORTHERN HEMISPHERE

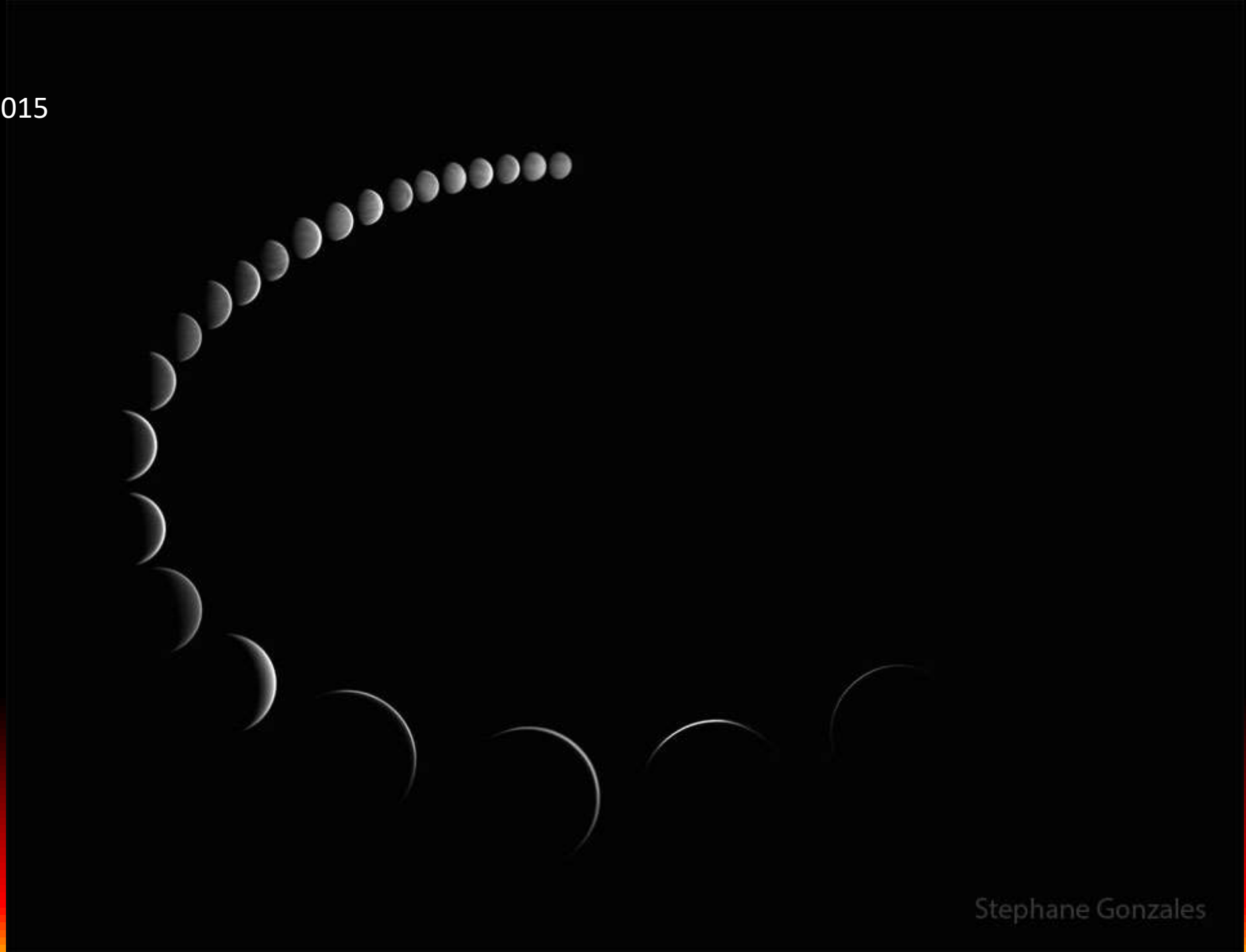


SOUTHERN HEMISPHERE



APOD 8/1/2024

Venere in 6 mesi durante il 2015



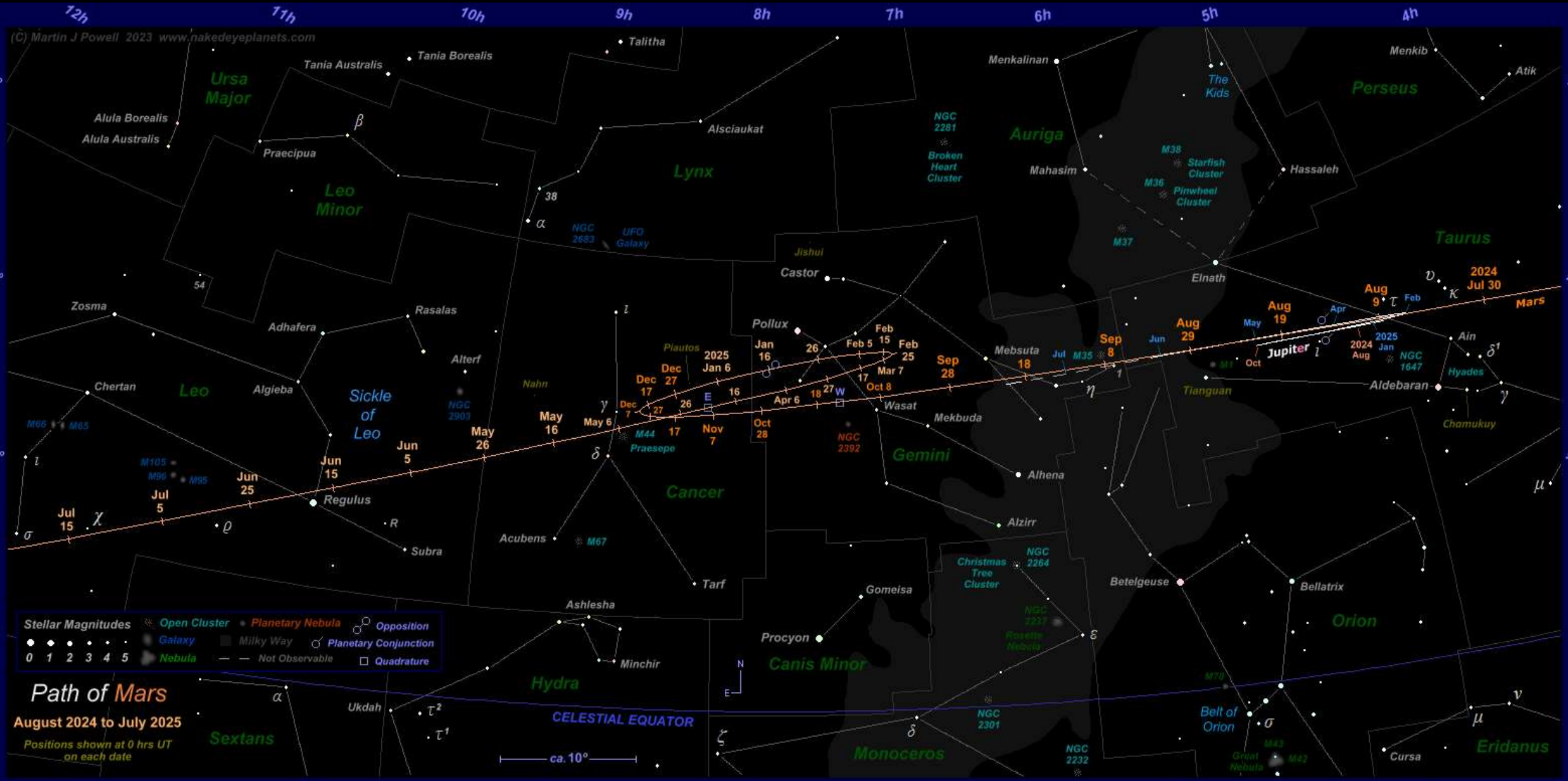
Visibilità dei pianeti nel 2024

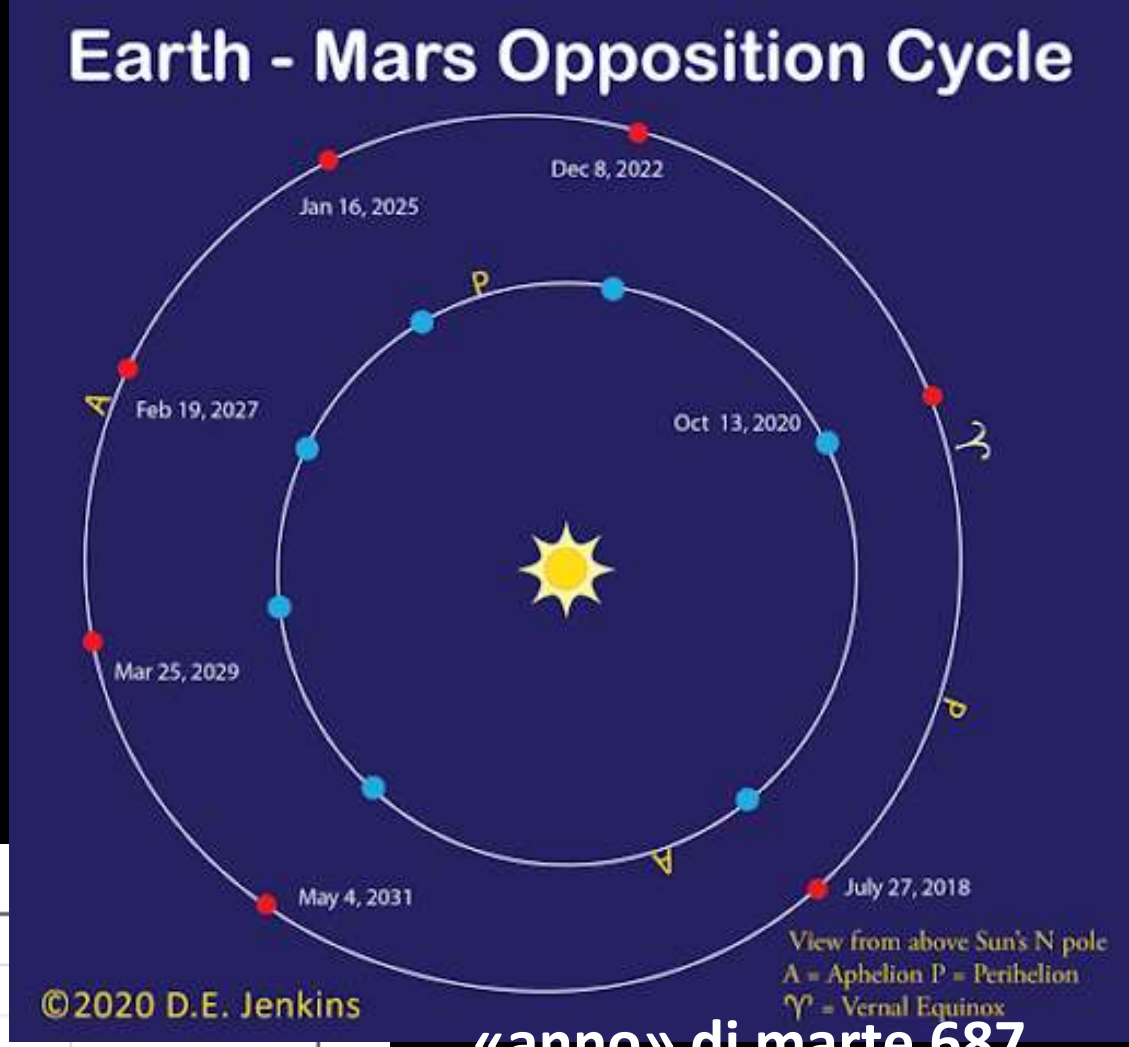
	Gen	Feb	Mar	Apr	Mag	Giu	Lug	Ago	Sett	Ott	Nov	Dic
Mercurio	12 m		24 s		9 m		22 s		5 m		16 s	
Venere	10 m											
Marte												
Giove												7 opp.
Saturno									8 opp.			

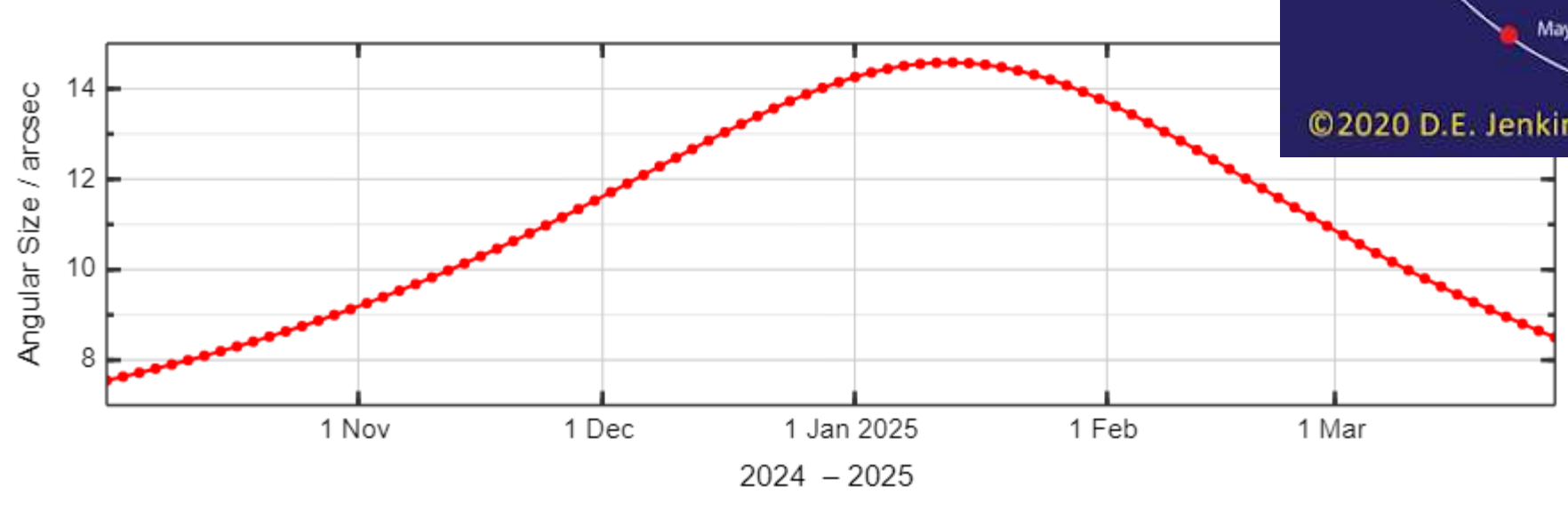
Marte sarà in opposizione il 16/gennaio/2025

Urano sarà in opposizione il 17/novembre
Nettuno sarà in opposizione il 21/settembre
Plutone sarà in opposizione il 23/luglio

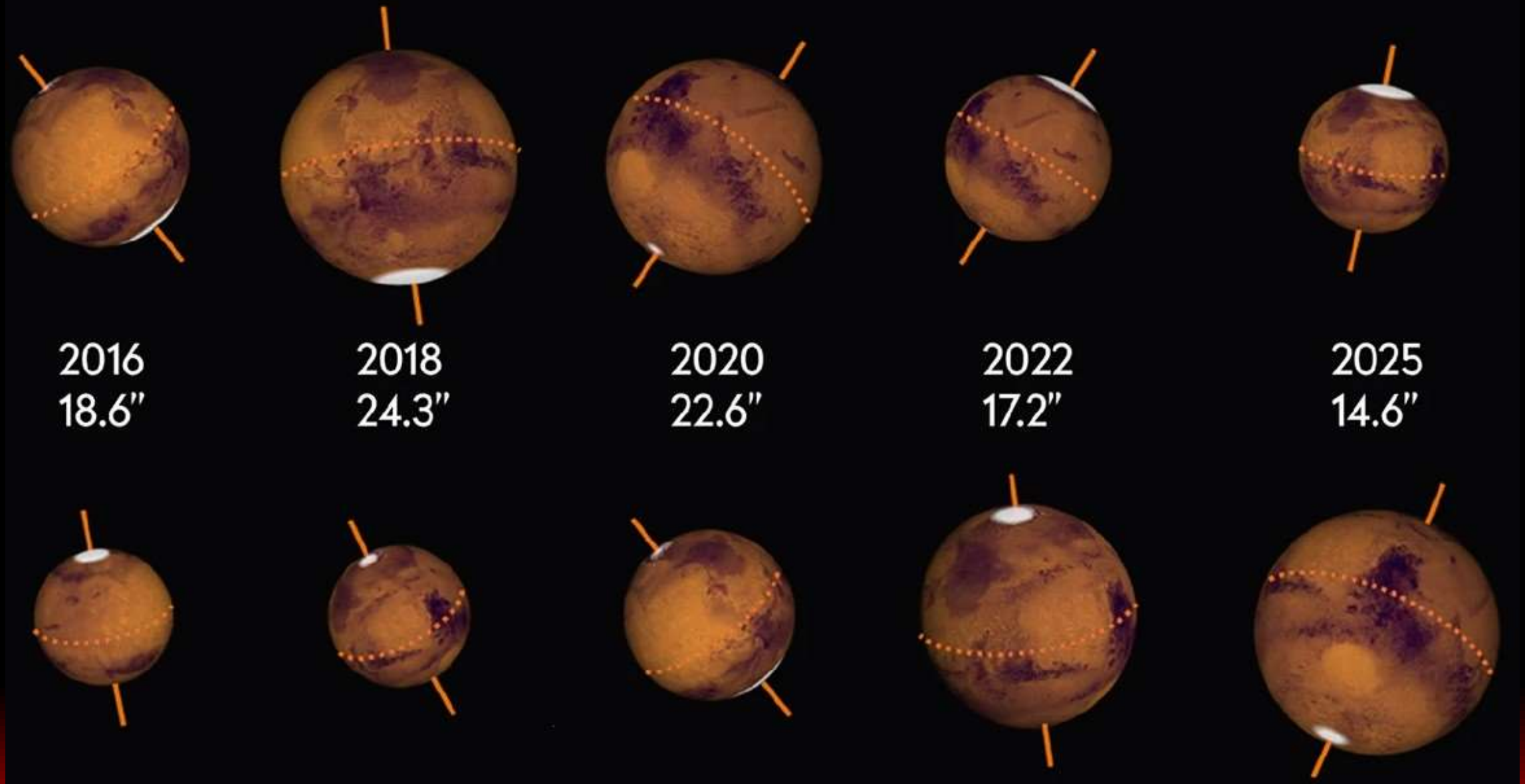
Percorso apparente di Marte in cielo da Agosto 2024 a Luglio 2025



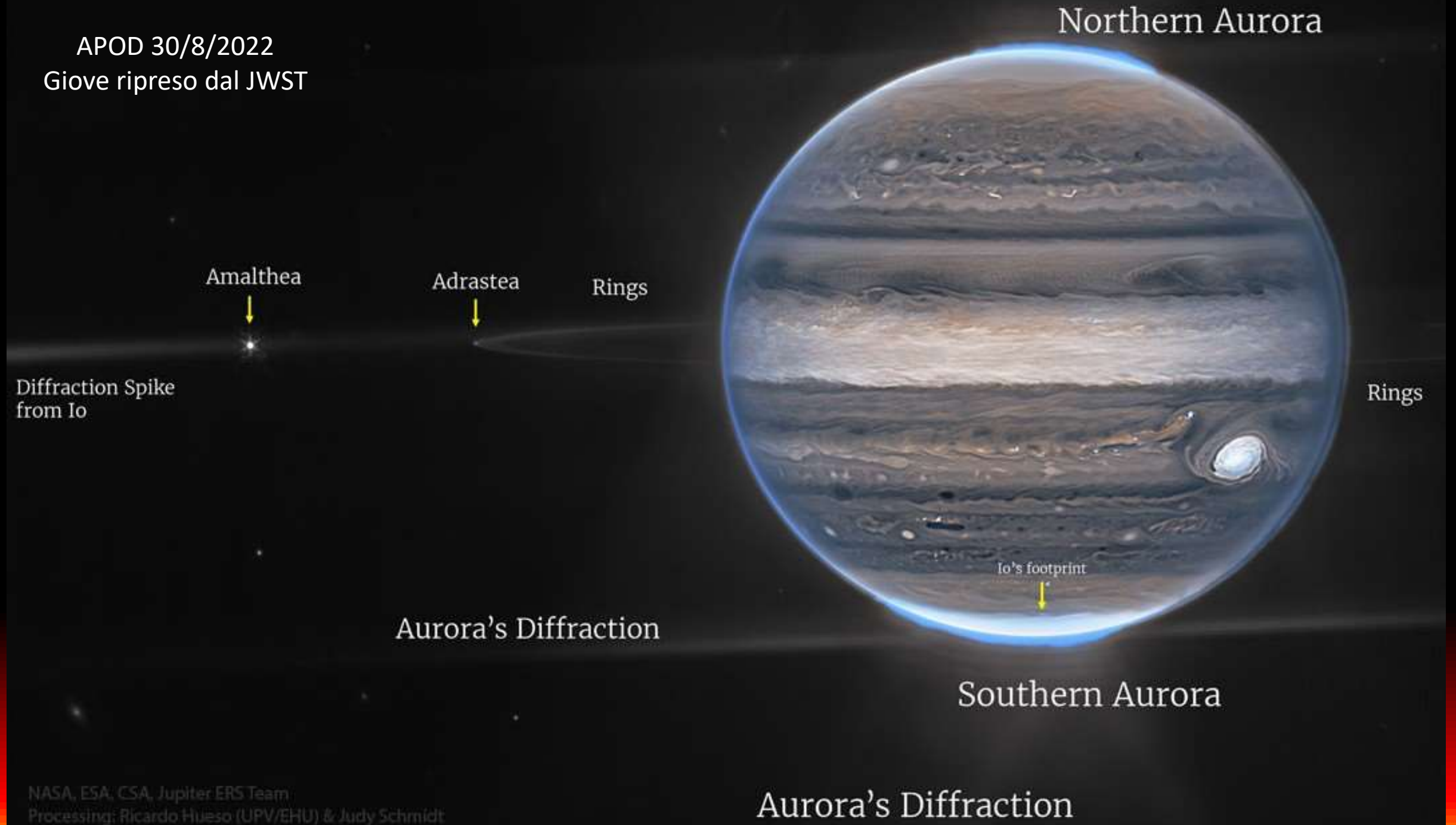


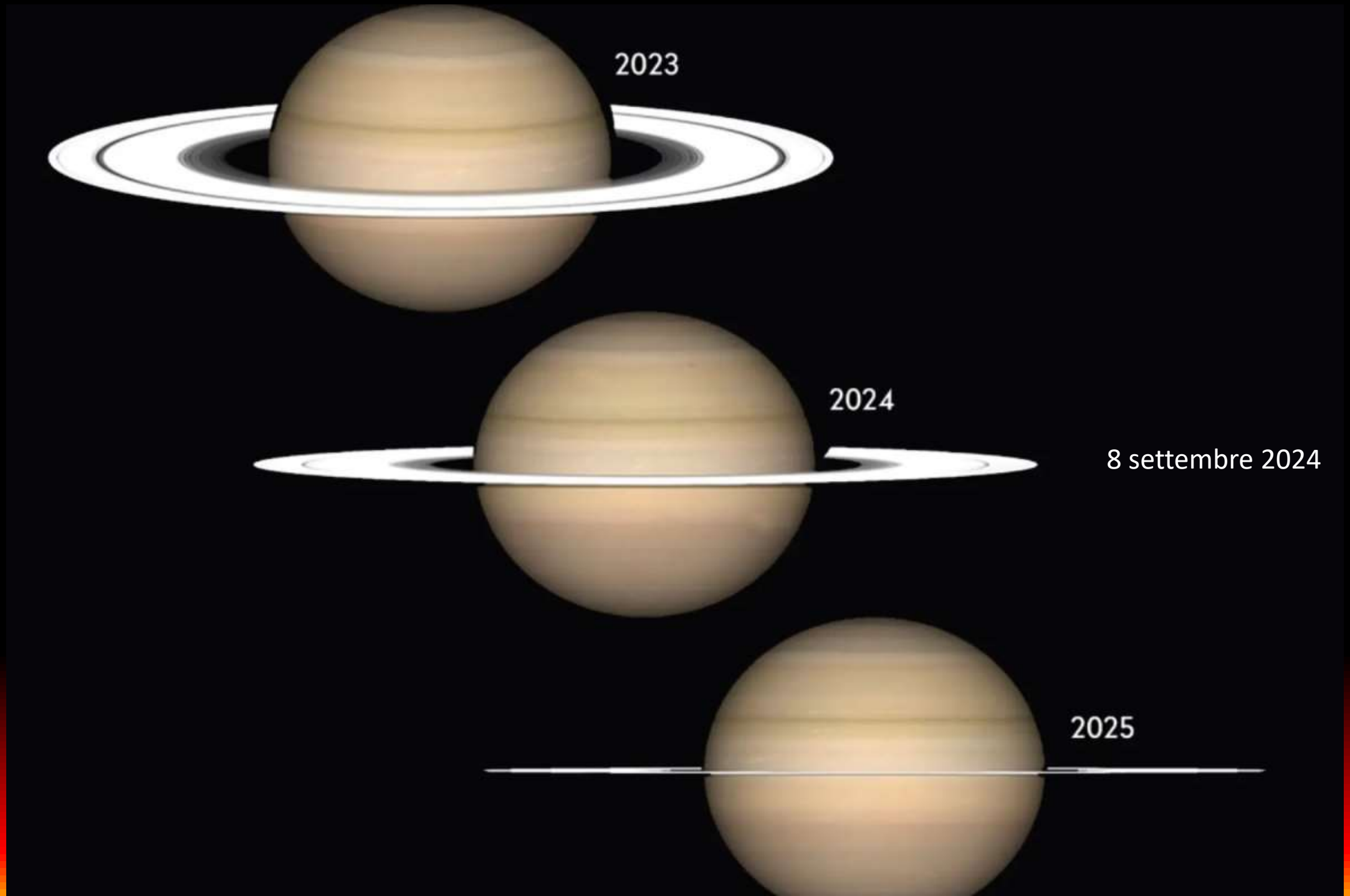


«anno» di marte 687 giorni,
Il periodo sinodico può variare fra 764 e 810 giorni, in media è di 780


2016
18.6"
2018
24.3"
2020
22.6"
2022
17.2"
2025
14.6"
2027
13.8"
2029
14.5"
2031
16.9"
2033
22.1"
2035
24.6"

APOD 30/8/2022
Giove ripreso dal JWST



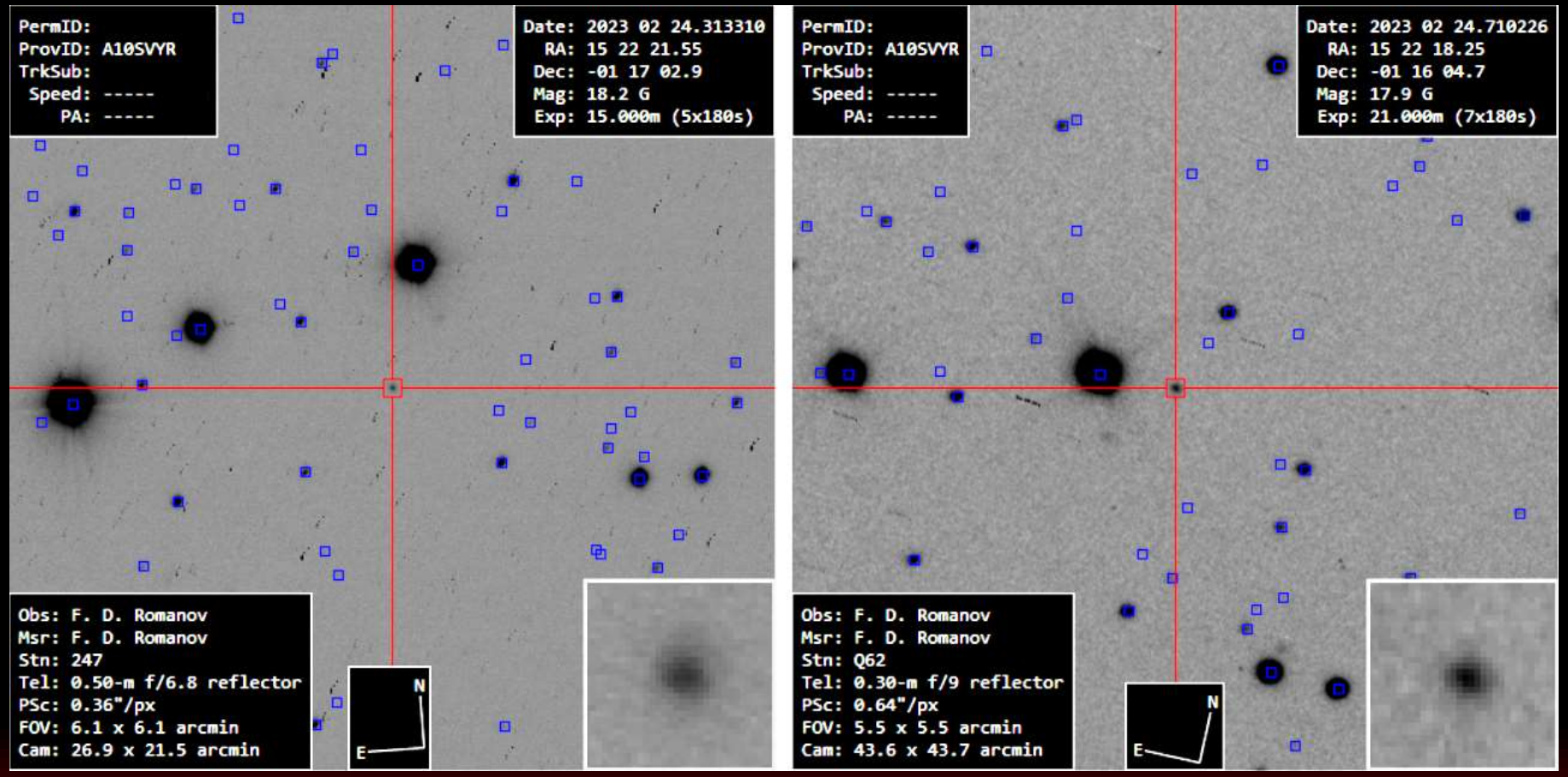


8 settembre 2024

Marzo 1997 cometa Hale-Bopp

Gennaio 2007 cometa McNaught

Cometa C/2023 A3 (Tsuchinshan–ATLAS)



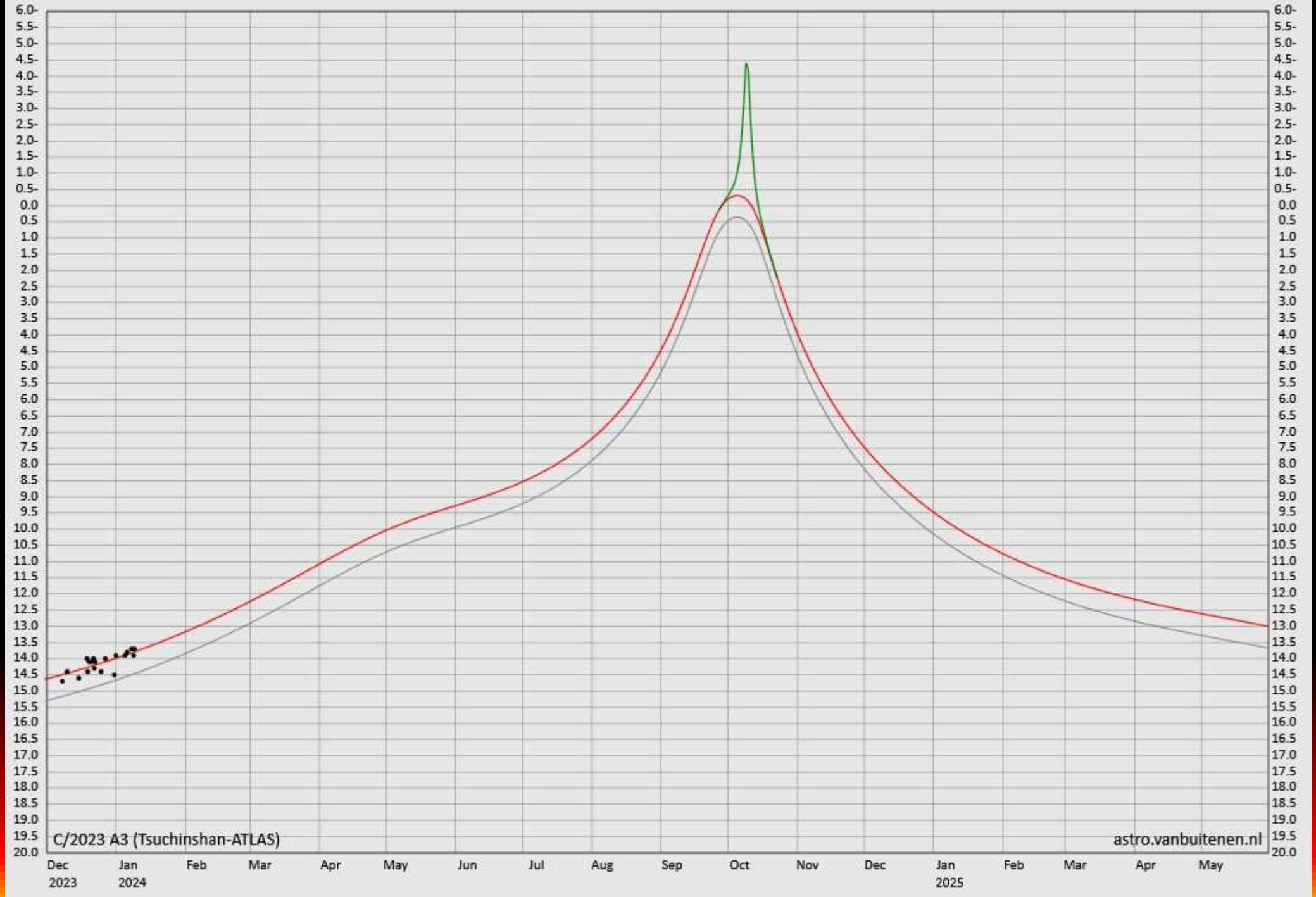
Il 9 gennaio ed 24 febbraio (2023) viene scoperta una nuova cometa con orbita estremamente allungata
designazione ufficiale C/2023 A3 (Tsuchinshan–ATLAS)
passaggio al perielio il 27 settembre 2024 alla distanza di 0,3914 UA (58,6 milioni di km) dal Sole

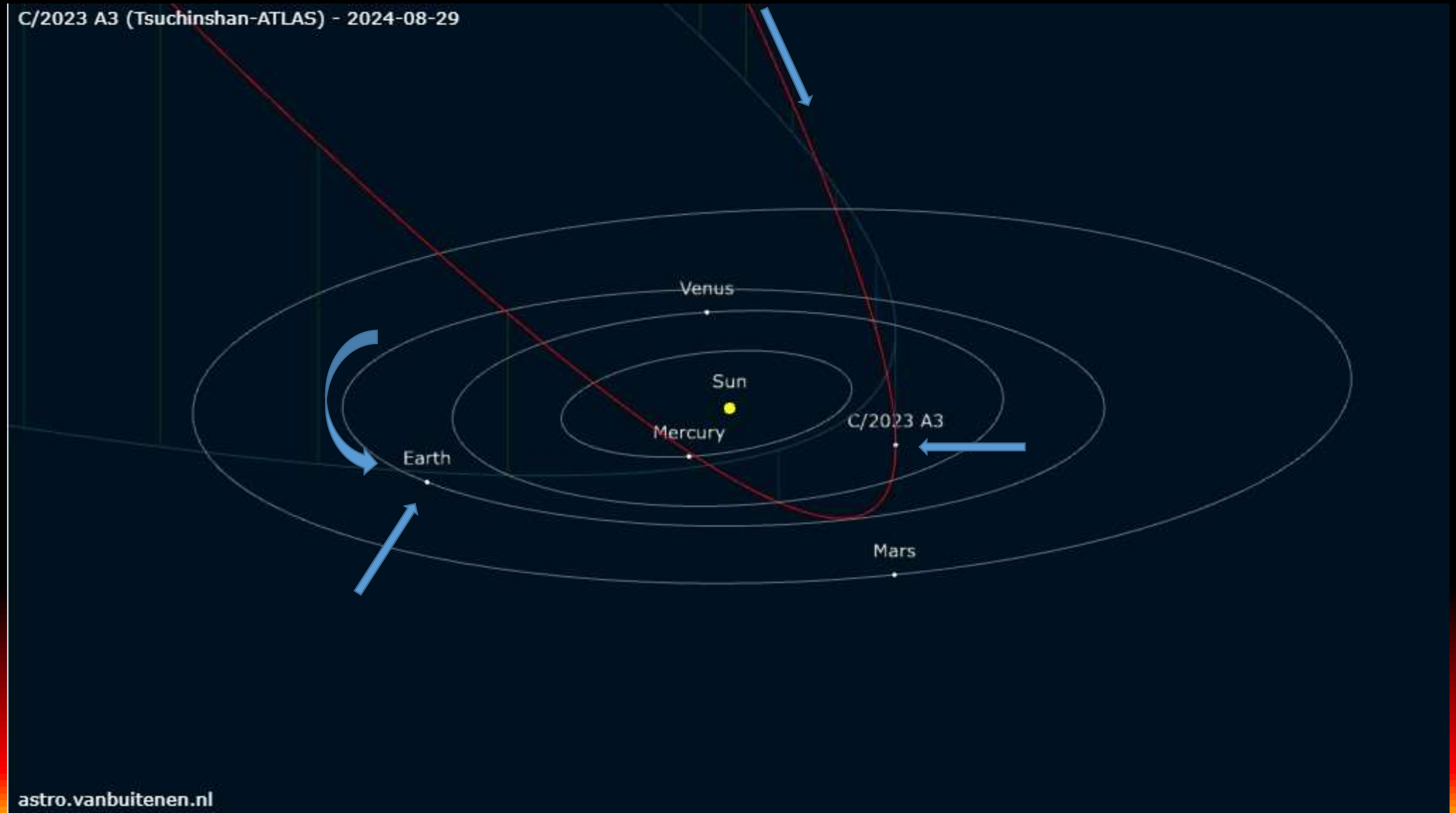
Comet C/2023 A3 Tsuchinshan-ATLAS. 06 Aug. 2023, 19:56 UTC.

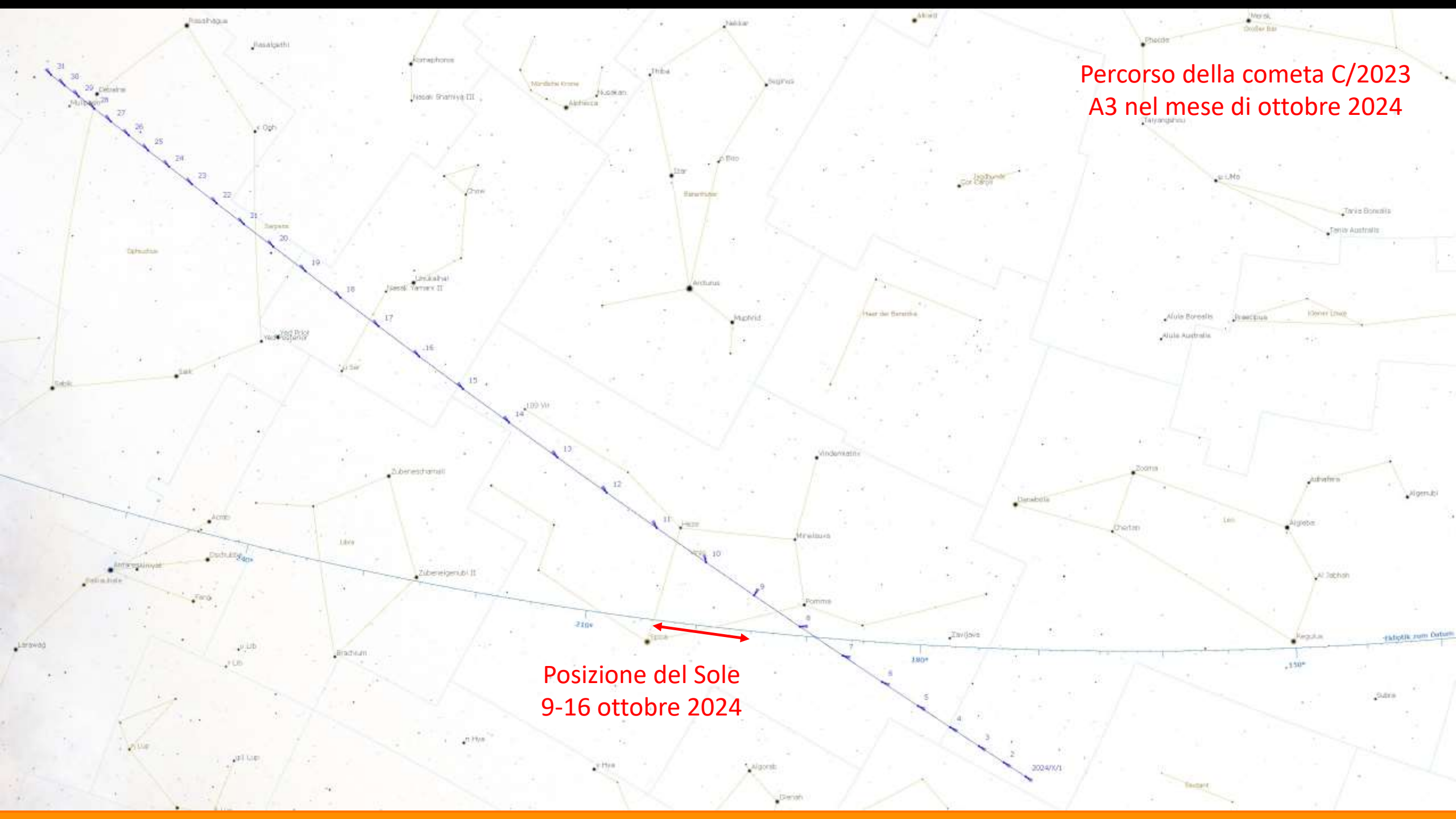
This image comes from the average of 7, 180-second exposures, remotely taken with the C14+Software Bisque Paramount ME + SBIG ST8-XME robotic unit part of the Virtual Telescope Project. The telescope tracked the apparent motion of the comet. A few artsats crossed the field of view. The comet, shining at mag. 15.8, clearly shows a coma and a thin tail pointing eastwards, better visible in the upper left inset, where a negative palette was introduced. The image scale is 0.75″/pixel. The target was 28 deg only above the western horizon.

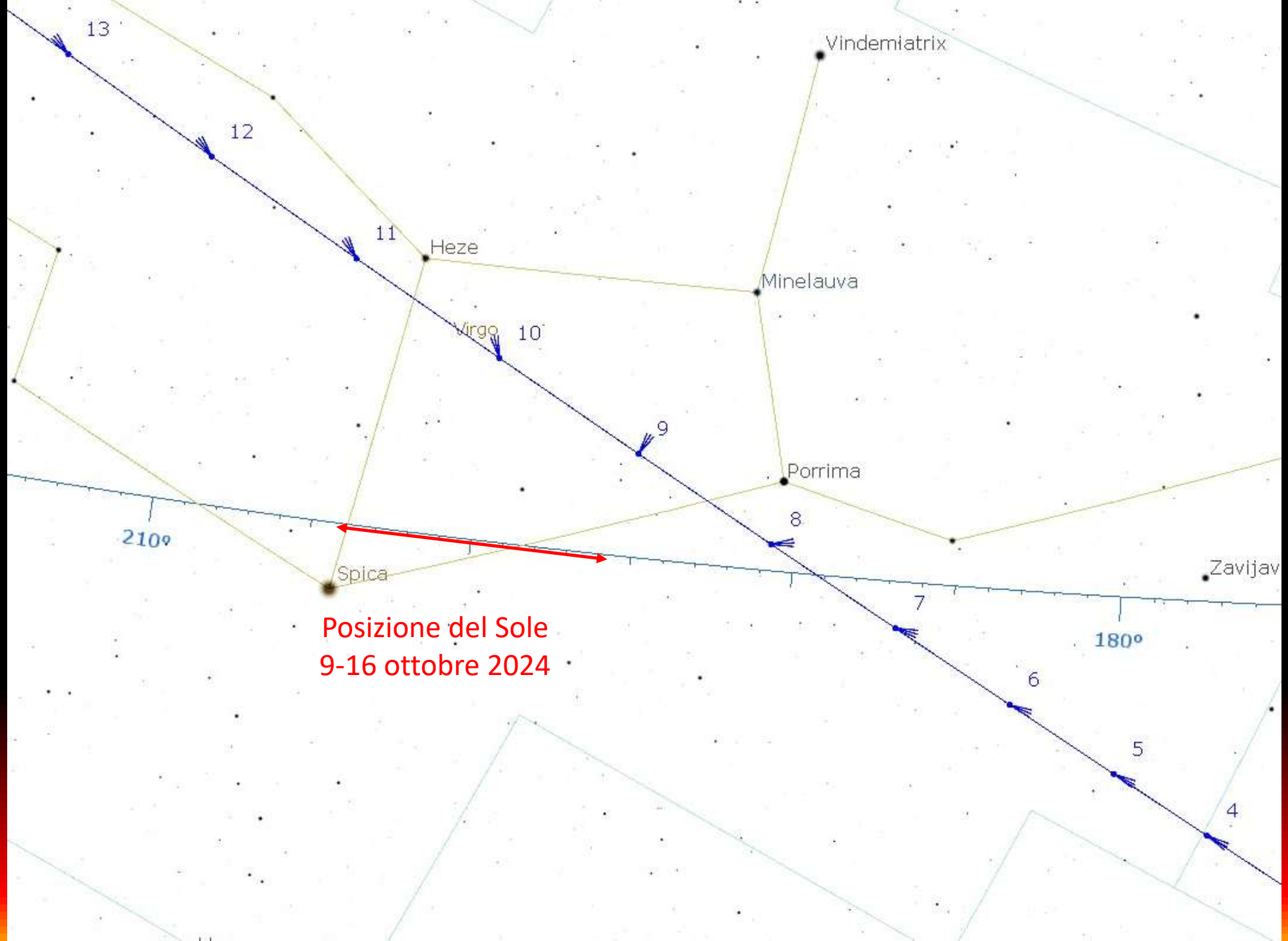
N
E
1′

Image by Gianluca Masi, Rome, Italy - MPC code:M50 - The Virtual Telescope Project - www.virtualtelescope.eu


C/2023 A3 (Tsuchinshan-ATLAS)
astro.vanbuitenen.nl
Dec 2023
Jan 2024
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan 2025
Feb
Mar
Apr
May


C/2023 A3 (Tsuchinshan-ATLAS) - 2024-08-29
Venus
Sun
Mercury
C/2023 A3
Earth
Mars
astro.vanbuitenen.nl


Percorso della cometa C/2023 A3 nel mese di ottobre 2024
Posizione del Sole 9-16 ottobre 2024


13
12
11
10
9
8
7
6
5
4
Vindemiatrix
Heze
Minelauva
Virgo
Porrima
Zavijav
Spica
210°
180°
Posizione del Sole
9-16 ottobre 2024


Sestante
29 set
Arturo
Vergine
14 ott
Serpente (Testa del Serpente)
19 ott
Ofiuco
24 ott
29 ott
8 nov
28 nov

Grazie per l’attenzione
ed
un sereno 2024 a tutti