

In this newsletter:

- Shows
- Moon Phases
- Annular Solar Eclipse
- Sunrise/set and moonrise/set for Johannesburg
- Astronomical Events

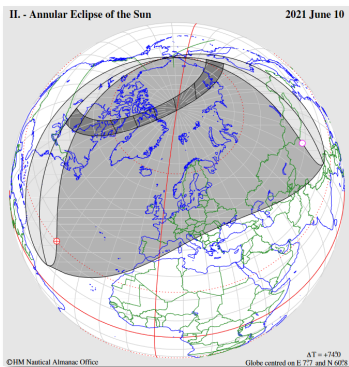
## Shows

All shows will be listed on our website when confirmed by the presenter. For the show schedule please visit our website: <http://www.planetarium.co.za/publicshows.shtml>

## Moon Phases

Last Quarter: 2 Jun  
New Moon: 10 Jun  
First Quarter: 18 Jun  
Full Moon: 24 Jun

## Annular Solar Eclipse – 10 June



Type of Eclipse: Annular Solar Eclipse (**NOT** visible from South Africa)

Time (SAST): 11:49 a.m. - 1:33 p.m.

Visible from: Northern part of North America, Europe, Asia, Northern Canada, Greenland, Russia

<http://astro.ukho.gov.uk/eclipse/0232021/S2021Jun10.pdf>

## Sunrise/set and Moonrise/set for Johannesburg – June 2021

Date	Day	Sunrise		Sunset		Moonrise		Moonset	
		h	m	h	m	h	m	h	m
1	Tue	06:48		17:24		23:40		12:18	
2	Wed	06:48		17:24		--:--		12:54	
3	Thu	06:49		17:23		00:36		13:27	
4	Fri	06:49		17:23		01:29		13:57	
5	Sat	06:49		17:23		02:21		14:27	
6	Sun	06:50		17:23		03:12		14:57	
7	Mon	06:50		17:23		04:04		15:29	
8	Tue	06:51		17:23		04:56		16:04	
9	Wed	06:51		17:23		05:50		16:42	
10	Thu	06:51		17:23		06:44		17:25	
11	Fri	06:52		17:23		07:39		18:12	
12	Sat	06:52		17:23		08:31		19:04	
13	Sun	06:53		17:23		09:21		19:59	
14	Mon	06:53		17:23		10:08		20:57	
15	Tue	06:53		17:24		10:50		21:55	
16	Wed	06:53		17:24		11:29		22:54	
17	Thu	06:54		17:24		12:05		23:53	
18	Fri	06:54		17:24		12:41		--:--	
19	Sat	06:54		17:24		13:16		00:52	
20	Sun	06:55		17:24		13:53		01:54	
21	Mon	06:55		17:25		14:33		02:58	
22	Tue	06:55		17:25		15:18		04:05	
23	Wed	06:55		17:25		16:10		05:15	
24	Thu	06:55		17:25		17:09		06:25	
25	Fri	06:55		17:26		18:13		07:32	
26	Sat	06:56		17:26		19:19		08:33	
27	Sun	06:56		17:26		20:25		09:27	
28	Mon	06:56		17:27		21:27		10:12	
29	Tue	06:56		17:27		22:26		10:51	
30	Wed	06:56		17:27		23:21		11:26	

*Data calculated using MICA, US Naval Observatory*

## Astronomical Events – June 2021

Date	Day	Time	Sky Event
1	Tue	10:57	Moon close to Jupiter: 4.9° N Venus: 17.5° E
2	Wed	09:24	Last Quarter
8	Tue	04:27	Moon Apogee: 406,200 km
9	Wed	18:42	Moon Ascending Node
10	Thu	12:43	Annular Solar Eclipse ( <b>Not visible</b> from South Africa)
		12:53	New Moon
11	Fri	03:06	Mercury Inferior Conj.

Date	Day	Time	Sky Event
12	Sat	06:11	Moon North Dec.: 25.6° N
		08:44	Moon close to Venus: 1.6° S
13	Sun	21:52	Moon close to Mars: 3° S
14	Mon	08:47	Moon close to Beehive Cluster: 3.1° S
18	Fri	05:54	First Quarter
21	Mon	05:32	Winter Solstice (Southern Hemisphere)
		17:57	Venus close to Pollux: 5.2° S
22	Tue	22:54	Mercury close to Aldebaran: 6.4° N
23	Wed	07:21	Mars near Beehive Cluster: 0.3° S
		08:07	Moon Descending Node
		11:58	Moon Perigee: 360,000 km
24	Thu	20:40	Full Moon
25	Fri	07:49	Moon South Dec.: 25.6° S
27	Sun	11:30	Moon close to Saturn: 4.1° N
28	Mon	20:38	Moon close to Jupiter: 4.6° N

Sky Events Calendar by Fred Espenak and Sumit Dutta (NASA's GSFC)

Movement of Mars through the Beehive Cluster (M44) at 6:30 p.m. in the North-West

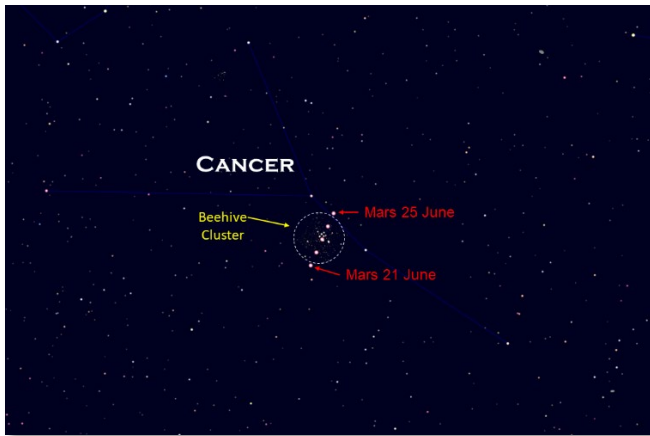


Image: Cartes du Ciel

Moon & Planets 27 – 29 June at 5:30 a.m.

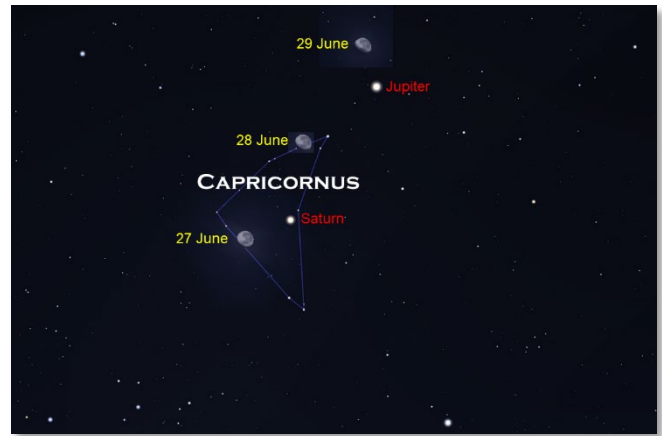
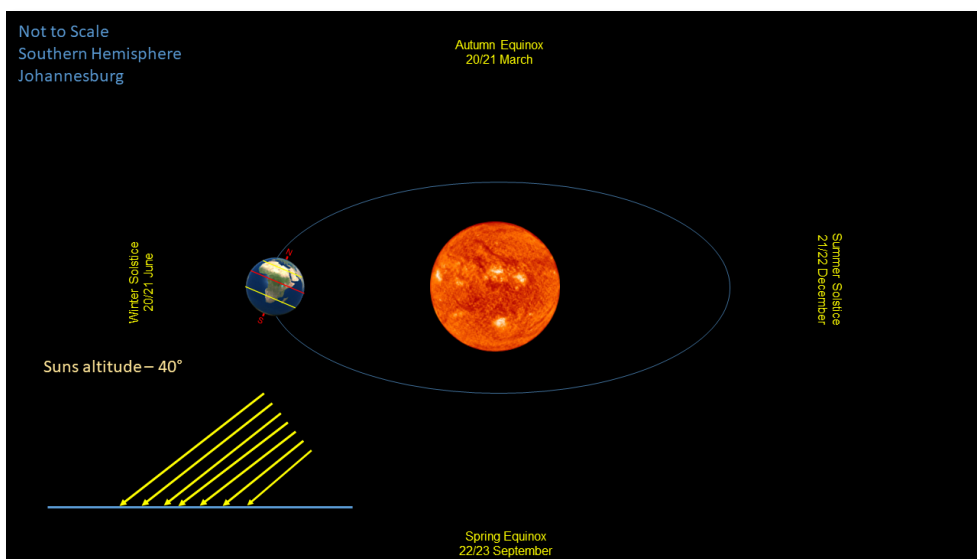


Image: Stellarium

### Winter Solstice – 21 June



Enjoy

Clear skies

Constant