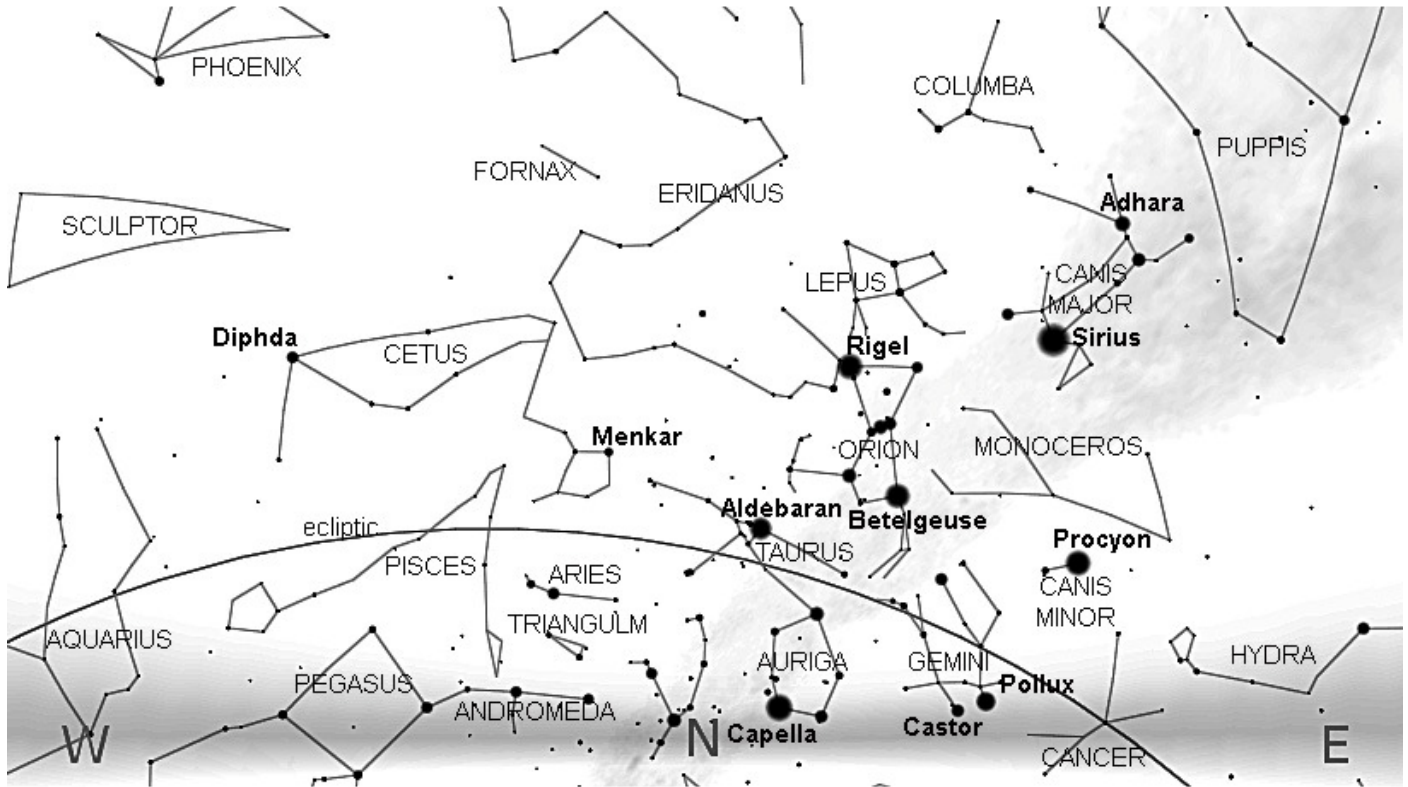


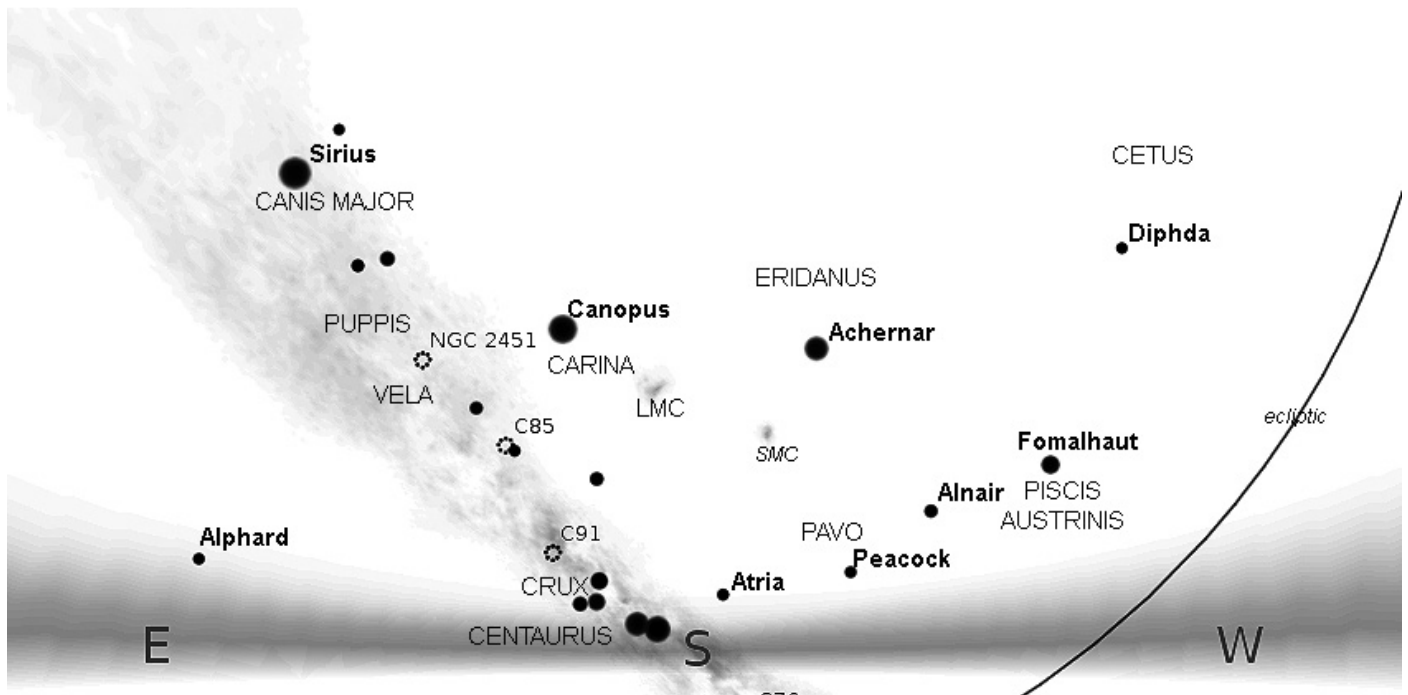
# JANUARY 2018

## 1. SKY CHARTS

### EVENING SKY MID JANUARY at 21<sup>h</sup>00 (NORTH DOWN)



### EVENING SKY MID JANUARY at 21<sup>h</sup>00 (SOUTH DOWN)



PLEASE NOTE: All events predicted below are as observed from **Hermanus, Western Cape, South Africa**

## 2. THE SOLAR SYSTEM

### PLANET VISIBILITY

<b>Mercury</b>	Low in the east before sunrise
<b>Venus</b>	Too close to the sun
<b>Mars</b>	Before sunrise
<b>Jupiter</b>	Before sunrise
<b>Saturn</b>	Low in the east before sunrise
<b>Uranus</b>	Visible in the evening
<b>Neptune</b>	Visible in the evening
<b>Pluto</b>	Initially too close to the Sun then low in the east before sunrise

<i>Sun &amp; Planets</i>	<i>JANUARY 2018</i>		<i>1<sup>st</sup></i>	<i>31<sup>st</sup></i>
<b>Sun</b> Constellation Length of day	Sagittarius to Capricornus 14h23m to 13h47m	Rises:	005h35	06h03
		Transits:	12h47	12h57
		Sets:	19h58	19h50
<b>Mercury</b> phase Constellation Magnitude	Φ 7" to 5" 64% to 95% Ophiuchus to Capricornus -0.3 to -0.6	Rises:	04h06	05h03
		Transits:	11h09	12h10
		Sets:	18h13	19h17
<b>Venus</b> phase Constellation Magnitude	Φ 10" 100% Sagittarius to Capricornus -3.9	Rises:	05h26	06h28
		Transits:	12h39	13h20
		Sets:	19h51	20h11
<b>Mars</b> phase Constellation Magnitude	Φ 5" to 6" 93% to 91% Libra to Scorpius +1.5 to +1.2	Rises:	02h03	01h05
		Transits:	08h48	08h05
		Sets:	15h34	15h06
<b>Jupiter</b> Constellation Magnitude	Φ 33" to 36" Libra -1.8 to -2.0	Rises:	02h12	00h28
		Transits:	08h59	07h18
		Sets:	15h46	14h08
<b>Saturn</b> Constellation Magnitude	Φ 15" Sagittarius +0.5 to +0.6	Rises:	04h58	03h14
		Transits:	12h05	10h22
		Sets:	19h13	17h29
<b>Uranus</b> Constellation Magnitude	Φ 4" to 3" Pisces +5.8	Rises:	13h53	11h56
		Transits:	19h30	17h33
		Sets:	01h11	23h10
<b>Neptune</b> Constellation Magnitude	Φ 2" to 3" Aquarius +7.9 to +8.0	Rises:	10h30	08h36
		Transits:	16h53	14h58
		Sets:	27h17	21h21
<b>Pluto</b> Constellation Magnitude	Sagittarius + 14.3"	Rises:	06h16	04h22
		Transits:	13h20	11h26
		Sets:	20h25	18h31

*Notes to the table above on the following page ...*

**Phase:** In a telescope, the inner planets (Mercury, Venus and Mars) appear to us in phases, depending on the angle of the Sun's illumination, as does the Moon. The **angular diameter** ( $\phi$ ) is given in arc seconds ( $''$ ). This is the apparent size of the object as we see it from Earth. To illustrate this point, consider the average binoculars through which we see about  $7^\circ$  of sky. Therefore, for example, Mars at  $19''$  on 1<sup>st</sup> May would cover approximately  $1/1300^{\text{th}}$  of the field of view.

**Magnitude:** we are accustomed to hearing stars described in terms of 'magnitude', for example Antares (in Scorpius) at +1.05 and the planet Jupiter, at magnitude -1.9. The latter is considerably brighter than Antares as the scale is 'inverse'; the brighter the object, the lower the number. A 'good' human eye on a clear night can see down to a magnitude of about +6.

**Transit:** When an object crosses the local **meridian** it is said to '**transit**'. The local meridian is an imaginary line from the horizon directly north passing overhead to the horizon directly south.

## THE MOON

*Lunar Highlight* (information from the 2018 *Sky Guide Africa South*):

### Langrenus

**Type:** Crater with steeply rising walls up to 2.6km high. The central double-peaked mountain is 1km high.

**Diameter:** 136 km.

**Notes:** Named after Michael van Langren, 17th century lunar cartographer who introduced a scheme of nomenclature for lunar features still used today (*mare, sinus, oceanus, montes, etc*).

**Best seen:** three days after **New Moon** and two days after **Full Moon**.

**Location:** Eastern limb

**Eclipses** (visible from Southern Africa):  
No eclipses, solar or lunar, are predicted for this month.



## **METEOR SHOWERS**

Poor prospects. Not worth the sleep disruption!

### 3. HIGHLIGHTS FROM THE SKY GUIDE (viewed from Hermanus)

<i>Date</i>	<i>Time</i>	<i>Item</i>
1		<b>Mercury</b> at greatest western elongation (23°)
	23h56	<b>Moon</b> at perigee (356 565 km)
2	04h24	<b>Full Moon</b> (Supermoon). <b>Moon</b> furthest north (+20.1°)
3		<b>Earth</b> at perihelion
5	11h45	The <b>Moon</b> passes 1.1° north of <b>Regulus</b>
	Starts 04h32	<b>Jupiter</b> multi-shadow event
7	03h32	<b>Mars</b> 12' south of <b>Jupiter</b> (in Libra)
9	00h25	<b>Last quarter Moon</b>
		<b>Venus</b> at superior conjunction and near <b>Pluto</b>
		<b>Pluto</b> at conjunction
11		<b>Moon</b> near <b>Mars</b> and <b>Jupiter</b>
12	05h06	<b>Vesta</b> occulted by <b>Moon</b> (sunrise 05h39!)
13		<b>Mercury</b> near <b>Saturn</b>
15	04h11	<b>Moon</b> at apogee (506 459 km) and furthest south (-20°)
		<b>Moon</b> near <b>Saturn</b> and <b>Mercury</b>
16		<b>Moon</b> near <b>Pluto</b>
17		FIRST DAY OF SCHOOL TERM
	04H17	<b>New Moon. Moon</b> near <b>Venus</b>
19		$\alpha$ <b>Crucid</b> meteor shower at maximum
20		<b>Moon</b> near <b>Neptune</b>
21		Comet <b>130P/McNaught-Hughes</b> at perihelion (period 6.2 years)
23		<b>Venus</b> at aphelion
24		<b>Moon</b> near <b>Uranus</b>
		<b>Mercury</b> near <b>Pluto</b>
25	00h20	<b>First quarter Moon</b>
		<b>Mercury</b> at aphelion
26		Comet <b>74P/Smimova-Chemykh</b> at perihelion (period 8.5 years)
27		<i>International Outer Space day</i>
	11h35	<b>Moon</b> 55' north of <b>Aldebaran</b> ( $\alpha$ <b>Tau</b> )
		Comet <b>185P/Petriew</b> at perihelion (period 5.5 years)
28		Comet <b>197P/LINEAR</b> at perihelion (period 4.8 years)
29		<b>Moon</b> furthest north (+20.1°)
30	11h55	<b>Moon</b> at perigee (358 994 km)
31	15h27	<b>Full Moon</b> (Blue Moon, Supermoon). Total eclipse visible in northern hemisphere
		<b>Ceres</b> at opposition

## 4. STARGAZING

### SUGGESTED OBSERVATION DAYS FOR JANUARY:

Unless specifically targeting the moon, I suggest the most convenient dates to plan evening stargazing in **January** are **5<sup>th</sup>** (moonrise 22h44) to **18<sup>th</sup>** (moonset 20h48).



*The next club stargazing evening is yet to be planned.*

More information regarding venue, etc., will be posted in due course to members' e-mail addresses and on our website

<http://www.hermanusastronomy.co.za>

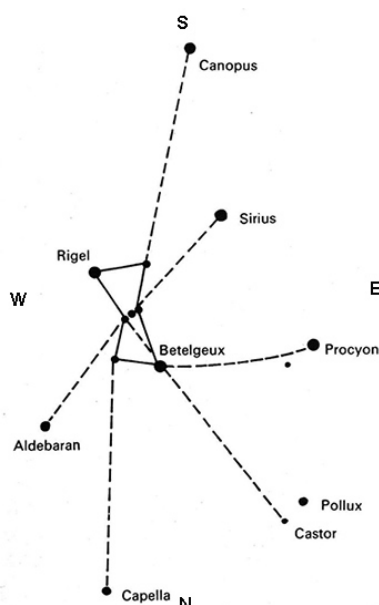
### NO 'SCOPE REQUIRED (or Getting to Know The Constellations )

I offer here some more tips for the less experienced enthusiast on getting started with recognising constellations and identifying some of the lesser-known features of the night sky. Lying on the lawn or on a well-reclined deck chair allows a sweeping view of the sky without tiring the neck muscles.

On a warm evening, with your toes pointed south, the night sky will appear as per the sky chart "EVENING SKY MID JAN 21H00 (SOUTH DOWN)", on page 1 of this issue. A headlight, selected to RED (available reasonably cheaply in the stores in town), will aid with reading the chart.

Repeating this exercise for a few nights running will quickly familiarise the viewer with the various stars and constellations.

Repeated from last year's Skymaps is the following section dealing with the north down night sky:



ORION is a recognisable and perfectly placed constellation in our mid-January evening at about 22h00. From the chart (left), we identify **Capella** ( $\alpha$  Aur) to the north, the twins **Castor** ( $\alpha$  Gem) and **Pollux** ( $\beta$  Gem) with **Canopus** ( $\alpha$  Car) to the south. We see **Sirius** ( $\alpha$  CMa) and **Aldebaran** ( $\alpha$  Tau) in line with and either side of Orion's belt. A gentle curve from Canopus northwards through Sirius to **Procyon** ( $\alpha$  CMi) completes a picture of a considerable area.

## DEEP SKY HIGHLIGHT (from the Sky Guide Africa South)



The **Tarantula Nebula** (NGC 2070) (cluster associated with nebulosity, magnitude 8.2) is the brightest emission nebula in the Large Magellanic Cloud. It is visible to the naked eye as a bright patch on the eastern side of the cloud.

Spanning over 900 light years of space, the Tarantula is also the most massive and largest-known star forming region in the entire local group of galaxies and is 500 times more energetic than the **Orion Nebula** (M42). The nebula's looped structure lead to its nickname, coined by John Herschel during his visit to the Cape in the 1830s. The loops were formed by past supernova explosions that created rapidly expanding shells of ionised matter.

### Please keep in touch...

Don't forget to have a look at our excellent website, edited by Derek Duckitt.

<http://www.hermanusastronomy.co.za/>

*Also...*

ASSA website <http://assa.saa.ac.za>

[ASSA Deep-Sky Section](#)

Whatsapp chat group: [ 074 100 7237 ]

[Official Big 5 of the African Sky web page](#)

[Official Big 5 Facebook group](#)

[ASSA Deep-Sky Section mailing list](#)

### **Contact ASSA**

Get in touch with officers of the Society - we're real people with a passion for astronomy, [so contact us and let's talk!](#)

You can find us on [Facebook](#), [Twitter](#), the [ASSA Info mailing list](#) and the [ASSA Discussion mailing list](#).

*Grateful thanks to the following, without whom this publication just would not be the same:*

ASSA

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