

What's Up – May 2013

Sun and Moon

NEW MOON is on the 10th at 02:28 AM. FIRST QUARTER (half moon in the evening sky) falls on the 18th. FULL MOON occurs on the 25th at 06:25 AM. LAST QUARTER (half moon in the morning sky) falls on the 31st.

On the 10th the young lunar crescent will be visible under perfect atmospheric conditions over the western parts of northern, central and southern America. It will first be visible from South Africa (and most of the world) on the 11th.

On the 13th at 15:32 PM the Moon will be at apogee (furthest from Earth) at a distance of about 405 826 km. The Moon will be at perigee (closest approach to Earth) at a distance of about 358 374 km on the 26th at 03:46 AM.

Planetary and Other Events – Morning and Evening

Mercury is visible in the morning sky early in the month. From mid-month onwards it is visible early in the evening. Venus also shines brightly early in the evening all month. Mars is visible in the morning from mid-month onwards. Jupiter is visible from dusk until around 20:00 PM at the beginning of the month, although by month's end it will set by 18:30 PM. Saturn is visible from dusk at the beginning of the month and is up all night, until just before sunrise. By the end of the month it will be set by 05:00 AM. Uranus is visible from 05:00 AM at the beginning of the month and rises around 03:00 AM at month's end. Neptune rises around 02:00 AM at the beginning of the month, rising progressively earlier and earlier each night, until at month's end it is rising around 00:00 AM.

Three meteor showers are active in May. The alpha Scorpiids are active between the 11th of April and the 12th of May, peaking on the 3rd of May. The eta Aquariids are active from the 21st April to the 12th May, peaking on the 5th of May. The chi Scorpiids are active from the 27th May until the 20th June, peaking on the 5th June.

The Scorpiids are minor showers with only around 5 meteors per hour expected at their peaks. The eta Aquariids meteor shower originates from dust grains ejected by Halley's Comet. The grains are distributed along the comet's orbit. Every time the Earth passes through the dust stream we experience the eta Aquariids meteor shower. To view the eta Aquariids, look towards the constellation Aquarius between 04:00 AM and 05:30 AM. At the peak, around 60 meteors per hour are expected.

The Evening Sky Stars

Orion can still be seen low in the WNW in the early evening, with bright Sirius ('The Dog Star') faithfully following at his heels (or possibly chasing Lepus the Hare into the western twilight). Leo's upside down question mark should be easy to spot in the north, above the few stars in the Great Bear that creep above our horizon. A bit higher in the north is lonely Alpheratz, the brightest star in the Water Snake, while another and much brighter orange star, Arcturus, rises in the northeast. Arcturus' atypical motion and chemical composition mark it as a likely 'immigrant', a star from a smaller galaxy which long ago was "eaten" by our own Milky Way giant spiral. A bit higher in the sky is blue-white Spica, rising in the ENE in early evening. Spica appears to the naked eye as a single fairly bright star, but it is actually a system of 5 stars 260 light years away. The two brightest stars in the Spica system rotate around each other once every 4 days, and are respectively 13 400 and 1 700 times as bright as our own Sun. Paradoxically, most of the stars you can see without a telescope are brighter than our Sun, even though most stars in our neighbourhood are much dimmer

than the Sun. This is because we can see bright stars even when they are far away, while most stars would be too dim to spot even at the distance of our closest stellar neighbours. Gliese 581, host star to two very interesting planets, is a typical example. This first of these two planets is about 5-6 times the Earth's mass and is located in the "habitable zone" where it is possible for liquid water oceans to exist on the planet's surface. The second of these is even smaller with a mass about twice that of Earth, but closer in to its parent star than the former. At only 20 light years away, Gliese 581 is one of our near neighbours, but is 66 times too faint to see with the unaided eye.

Rising in the southeast are the stars of the Scorpion and the Wolf, with the stars of the Cross and the Pointers high in the SE. Antares, the bright red star in Scorpius will be very close to a nearly full moon on the 17th of May at 10 pm. Well up in the SSW is Canopus, second brightest star in the sky and brightest in the great ship Argo, serenely sailing along the Milky Way, which runs from Scorpio in the SE to the Twins and the Unicorn in the NW. Accompanying the Argo are the Flying Fish and the Swordfish, with the Fly and the Bird of Paradise flying on ahead.

The Morning Sky Stars

Achernar, the "Little Horn", shines brightly high in the SE before dawn, with the celestial river Eridanus flowing down toward the east. An assortment of birds occupy much of the southern sky, including (from west to east) the Bird of Paradise, the Peacock, the Crane, the Toucan and the Phoenix. The stars of the Pointers and the Cross are now low in the SW, with the Scorpion the Wolf and the Altar in the WSW and Sagittarius the Archer still halfway up in the west. The centre of our galaxy, with the most brilliant parts of the Milky Way, is well into the west before dawn, but the Great Rift (a dark band running through the northern Milky Way) is still easy to see. The brightest stars in the NW are Altair in the Eagle, Vega, very low in the NW in the Lyre, and Deneb, the tail of the Swan. The Swan, at the far northern end of our Milky Way on May mornings before dawn, is also known as the Northern Cross. The dim star at the southern end of the Northern Cross is Albireo, a beautiful gold-and-blue double star through a telescope. Albireo's two stars are far brighter than ours, but they would still be dim compared to Deneb. We don't know the exact distance to Deneb, and can't be sure just how bright it is, but the MINIMUM estimate is 60 000 times the brightness of the Sun!

Just east of the point overhead is Fomalhaut, brightest star in the Southern Fish, with the dimmer stars of the Sea Goat and the Water Carrier just to the north. Low in the northeast are the stars of the Great Square of Pegasus, with the two fishes to the south and east, tied together by their tails. Rising in the E before dawn are the stars of the Whale, just below Mars.

But the most carefully watched star on May mornings in at least some parts of Southern Africa was Canopus, known to some as 'Naka' (the Horn). Sotho men would camp in the mountains where they made fires and watched the early morning skies in the South. It was believed that the first person to see the star would be very prosperous that year, with a rich harvest and good luck to the end of his life. In olden times the chief would give the lucky man a heifer. The day after Naka was sighted was the time for the men with divining bones to examine their bones in still water, to predict the tribe's luck for the coming year. Among the Venda, the first person to see Nanga (Canopus) in the morning sky announced his discovery by climbing a hill and blowing a sable antelope horn (phalaphala). Among the Mapeli, the first person to see the star

would begin ululating loudly enough to be heard in the next village, which would then join the noisemaking to warn other villages, each in turn until all knew Canopus had been seen.

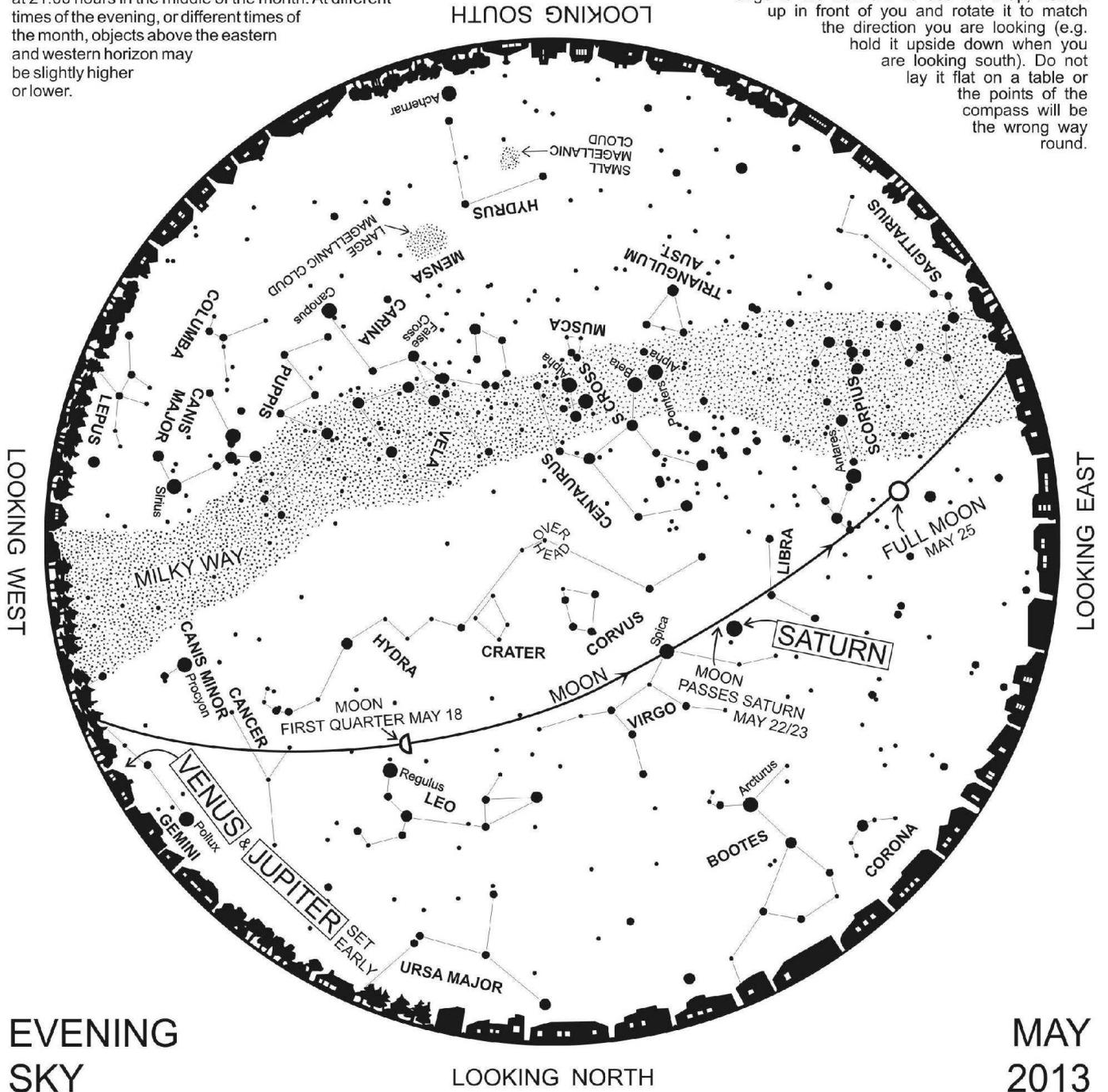
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The map shows the night sky visible above the Cape at 21:00 hours in the middle of the month. At different times of the evening, or different times of the month, objects above the eastern and western horizon may be slightly higher or lower.

The centre of the map is the overhead point, the edge is the horizon. To use the map, hold it up in front of you and rotate it to match the direction you are looking (e.g. hold it upside down when you are looking south). Do not lay it flat on a table or the points of the compass will be the wrong way round.



EVENING
 SKY

MAY
 2013