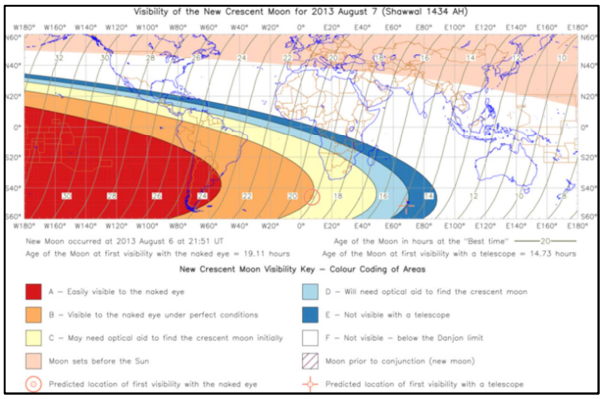
Controversy of Moon Sighting in South Africa

Report by Qamar Uddin, York, UK (6 August 2014)

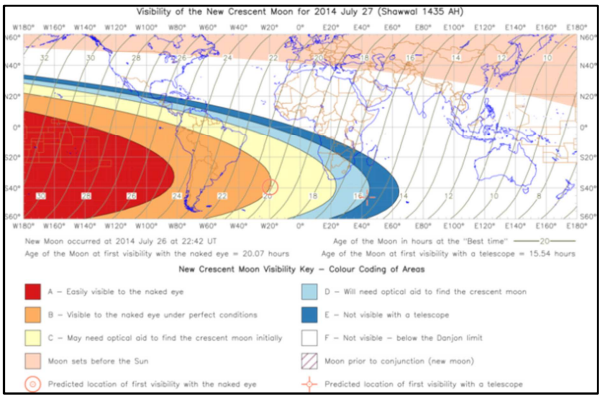
As many ICOP members may be aware that due to the adverse weather conditions in the UK, our Ulama have decided to accepted any reliable moon sighting news from the east of the UK/Morocco, including South Africa.

We have generally found the moon sighting news from South Africa to be very reliable in the past, at least over last five years. However, this year many people have considered their sighting claims to be doubtful from a scientific perspective, as explained below.

It can be seen from the Visibility Map below for last year (7 August 2013), the Shawwal moon was much easier to be seen than it was this year (27 July 2014), but it was not seen anywhere last year in South Africa.



Visibility Map for 7 August 2013



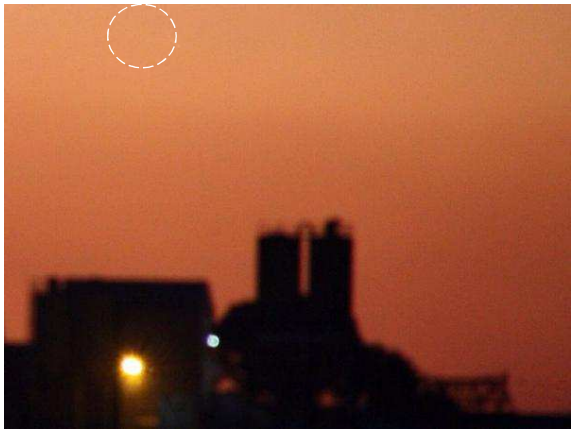
Visibility Map for 27 July 2014

The Johannesburg* lunar parameters table below shows that last year (7 August 2013) the moon was older, longer on the horizon, further away from the sun and more illuminated than the this year, yet it was not sighted.

Date*	Moon Age	Lag Time	Altitude	Elongation	Area Illuminated	RGO Code
07/08/2013	17:54 hrs	39 mins	7 deg	10 deg	0.6 %	C
27/07/2014	16:57 hrs	37 mins	7 deg	9 deg	0.5 %	D

However, the year before (18 August 2012) the moon was significantly older (24 hrs) and brighter (1.2%) and hence many thousands of people saw it from throughout the country. The photo below also shows over 5,000 people gathered to sight the Shawwal moon from the Three Anchor Bay area of Cape Town on 18 August 2012.

Three Anchor Bay, Cape Town (18/8/2012)



Sunset near Johannesburg (27/7/2014)

Date*	Moon Age	Lag Time	Altitude	Elongation	Area Illuminated	RGO Code
29/08/2011	12:50 hrs	32 mins	6 deg	9 deg	0.5 %	E
18/08/2012	23:56 hrs	57 mins	11 deg	14 deg	1.2 %	A

What is more interesting is the fact that a similar number of people also attempted to sight the Shawaal moon on 27 July 2014 from the same location as well as from a high hill (Signal Hill, 360m high), yet no one was able to do so with a clear line of sight to the horizon, including from over 500 observers on the hill.

In previous years, the Muslims of Cape Town were more easily able to sight the youngest crescent moon than anyone in the whole country. The reasons being, the western horizon of Cape Town faces the ocean without any air and light pollutions associated with inner-city/built-up areas.

We understand there were over 20 people who claimed to have sighted the moon from Johannesburg/Pretoria area on 27 July 2014 immediately after sunset (but before Maghrib). Johannesburg is over 800 miles Northwest of Cape Town. One of the observers has also submitted the sunset photo of the horizon where the moon was sighted (Laudium) and by analysing the photo, the white mark on it does not appear to be the crescent moon?

It is generally not possible to sight a moon under 24 hrs old immediately after sunset due to the strong glare of the sun on the horizon at sunset. It should also be noted that Cape Town (West) sunset was half an hour later Johannesburg (East) sunset, so any sighting in Johannesburg should be possible to be confirmed from all locations to the West, such as Cape Town. This was not the case on Signal Hill (Cape Town) with a clear field of vision.

Furthermore, none of the Visibility Maps criteria (Yallop, Shaukat, Odeh) show it was possible to sight the crescent moon on Sunday, 27 July 2014 by naked eye from Johannesburg (even though there was a small chance to do so in Cape Town). Therefore, many moon sighting experts believe what the people of Johannesburg saw after sunset on 27 July 2014, was not the crescent moon, but some other objects that appeared like it?

It should also be pointed out that, just because the moon sets after the sun, it does not automatically become visible to the human eye immediately after sunset. The world record of **shortest lag time of 29 minutes** was from Palestine, observed on 20 September 1990, but it was **over 39 hrs old** with significantly high (2.8%) illumination!

We are aware that some moon sighting committees do not have any astronomy expertise and simply use the basic observatory data from websites to reach their decisions. We would request them to consult astronomers with practical moon sighting experiences and refrain from interpreting website data, which are similar to a non-specialist trying to prescribe drugs for a serious illness simply by reading the ingredients on the packaging!

Some Ulama also believe that if a large group of people claim to have sighted the moon than they can override any scientific data on crescent visibility. The question arises, how many people is a “large group” (*Jamme Ghafir*)? It is recorded in historical texts that Imam Abu Yusuf (d. 798 CE) required a minimum of 50 witnesses (in clear sky) when he was the *Qadhi* (Judge) in Baghdad. If this was the case before the invention of the telephone, should it not be a significantly larger number at this time of instant communication from mobile phones?

In conclusion, we would like to request all the moon sighting committees to include astronomers to advise on latest research on the visibility of the moon for different locations and also clearly define what constitutes a “large group” before deciding to override well established crescent visibility data, e.g. see next year data below.

Date*	Moon Age	Lag Time	Altitude	Elongation	Area Illuminated	RGO Code
16/07/2015	14:10 hrs	34 mins	6 deg	8 deg	0.4 %	E

References:

1. Emails between Mufti Sultan Alam, Maulana Ashraf Docrat, Haneef Tayob, Dr Abdurrazak Ebrahim, Eng Qamar Uddin
2. Crescent Visibility Maps (www.crescentmoonwatch.org, www.moonsighting.com, www.icoproject.org)
3. Hilal Sighting & Islamic Dates: Issues and Solution Insha'Allaah by Dr Salman Shaikh (www.hilalsighting.org)
4. Radio Islam (South Africa) interview on Moon Sighting with Maulana Ebrahim Bham (www.radioislam.org.za)
5. Sighting of the Eidul Fitr Crescent (1435) report by UUCSA (www.jmtsa.co.za)