

Stargazing Live 2015 – Messier Challenge.

As Stargazing Live this year is being broadcast in March, to coincide with the solar eclipse, we have the opportunity to feature something we can't do in January – a mass observation of Messier objects.

We want astronomy groups all around the country to get involved and together we will see how many of the Messier objects we can, as a nation, observe (and ideally photograph) within one week – the week of our live broadcasts. (We are on air Wed 18th – Fri 20th March.)

We calculate that not all 110 Messier objects will actually be above the horizon during that week, but we intend to get as close as we can, and we need your help!

Observations should take place between dusk on Monday 16th March and 21.00 on Friday 20th March (any later and we won't be able to report on them in our programme).

You are the experts on observing, but for those who are new to it all, here are some basic pointers:

Location

For the best chances, you should have a clear view of the horizon to the West, and to the South East. As this is where the lowest and hardest objects will be, close to the sun (in the evening and the morning).

Kit required

The entire catalogue can, apparently, be observed with a pair of 20×80 binoculars (if you know what you're looking for). However, some objects are hard to see without at least a medium telescope – eg a 200mm aperture Newtonian - though, of course, the bigger the better! A Goto finder will be very helpful – some might say necessary.

Timings needed

If weather permits, we advise you to spread the viewing across a couple of nights - absolutely important if you have to drive or work the next day! It is sometimes recommended to make the break after the Virgo Cluster, M83, M68 and M102 (NGC 5866).

Session 1: For the best chances of a high tally, observers would need to be set up and ready, looking West *before* sunset on night one, as the first few are only visible for a short while, and only in the fading daylight. There's a rush for a couple of hours (to catch objects before they also set), then it eases off for a bit. Good observers should be able to go to bed around midnight or 1am.

Session 2: On the next night, go to bed early, as you should be out with your telescopes ready by 3am, for the morning shift. It starts at a leisurely pace, but you'll need to speed up and be at your fastest for the critical/hard ones just before dawn.

You can create a **planner** for all the technical details about where to find the objects and a suggested order, tailored to your site and dates.

<http://members.shaw.ca/r/mcnish/darksky/messierplanner.htm>

Other info

There are many more useful tips on the internet, for example here:

<http://messier.seds.org/xtra/marathon/marathon.html>

and here

<http://www.richardbell.net/marathon.html>

Submitting your results

1) Images are the best way to submit your observations. You can:

- Upload your images to the **BBC Stargazing Flickr** group, making sure you include *in the image title* the words “MChallenge” and the M-number(s) featured in the image.
- Email your images to “**stargazing@bbc.co.uk**”, making sure you include *in the image title* the words “MChallenge” and the M-number(s) featured in the image. Please also include the words “MChallenge” in the email subject line.

Please include details of where and when the photograph was taken.

2) If you don't have photographic capability, you can just email us a report at the end of each night, detailing which M-numbers you have successfully observed.

- Your report needs to include your location (ideally using Lat and Long, but postcode is acceptable) and, for each M-object, please indicate the time that it was observed and the equipment used. You should also have a second observer view and verify the object. Reports should be emailed to “**stargazing@bbc.co.uk**”, making sure you include, in the subject line, the words “MChallenge”.

Reporting of the nation's results

We will give updates on progress in our live programmes on BBC2 - *Stargazing Live* and *Back to Earth* and we intend to feature some of the best images. Ideally, by the end of the programme on Friday evening, we hope to have ticked off as many objects as it is physically possible to see from the UK...

One extra thing:

As part of this year's BBC Two Stargazing Live, we will be inviting members of the public – whether novice or seasoned stargazers – to take part in a never-before-attempted mass photography experiment.

We would like you to take a photo of (part of) the Orion constellation from wherever you are in the UK. Submit it to our team of astronomers, who will use state-of-the-art software to combine all your photos in an attempt to create the most detailed image ever seen of this patch of the night sky. If we pull this off, it could set a model for how astronomers might image and study the entire night sky in the future with the power of crowdsourcing.

We will launch this Orion challenge on Tuesday 10th March. Please visit the BBC Stargazing Live webpage for an iWonder guide on how to take and submit the photo, as well as an animated demonstration of how the photo-stacking software works.