

## Mars Opposition 2018—drawing tips

(based on the 2018 June JRASC article by Denis Fell, RASC Edmonton Centre)

### Introduction

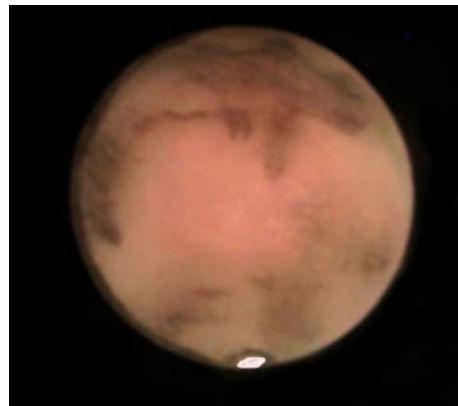
Once you have read the companion piece “Mars Opposition 2018—telescope observing tips,” the following will guide you in recording your observation on paper. For general information about the 2018 Mars apparition, see the article by Murray Paulson in the PLANETS AND SATELLITES chapter of the current *RASC Observer's Handbook*.

### Drawing Mars

The reasons for recording your observation as a drawing are twofold: first it trains your eye and brain to truly **observe**—as you look at different features and portions of the disk, you learn to pick out subtle variations in the darker features, thin indistinct markings in the desert areas, yellow dust clouds, and white atmospheric clouds, hazes, and fog. Second, as you progress, you learn proper placement of features in relation to one other. Start with the most prominent polar cap and gauge feature placement using a centre line on the disk as a second reference. Work carefully, outline the major features, and shade them according to what you see, blending with your finger and using the eraser to lighten areas. You can outline clouds with a dashed line and dust with a dotted line—these can be refined later when you finish the sketch indoors.

As Mars rotates  $14.6^\circ$  per hour, you should strive to complete your sketch in 15–20 minutes to avoid distortion of the overall drawing. Take note of the start and stop times in order to calculate the central meridian of your drawing. Write down the date, location, observer, instrument, magnification, filters, seeing, transparency, and any noteworthy features or circumstances.

We recommend using a clipboard with a red light. First, sketch the surface markings using a soft pencil (type B), then use your eraser and

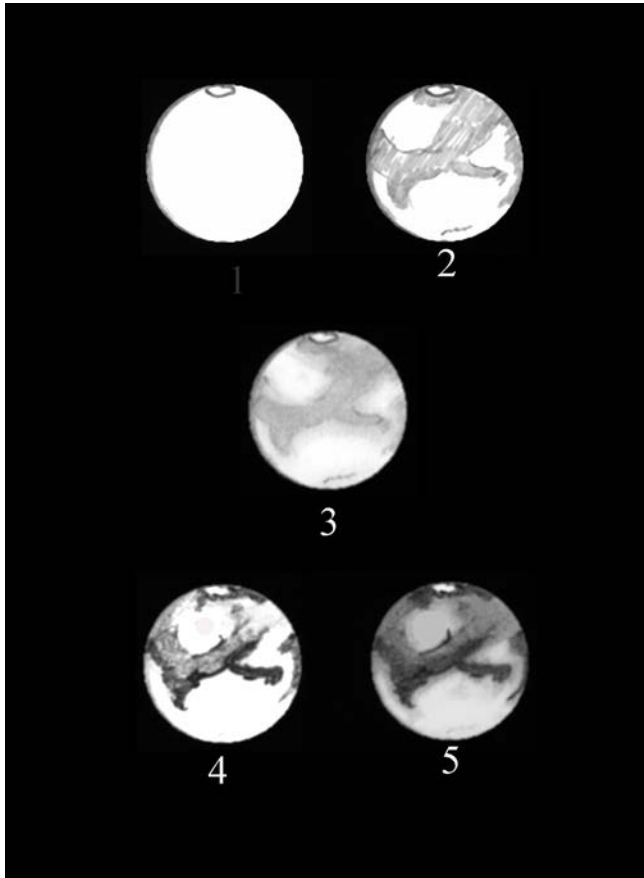


fingertips to smudge and blend. For colour, good quality pencil crayons work well—blend the colours as you did with the pencil. Dark areas often appear greenish to the eye but that is mainly a contrast effect against the pink/orange background that fooled early observers into thinking there was vegetation on Mars. Dust clouds are yellowish and atmospheric clouds white.

Drawing is easier when you are seated, allowing your eye to stay centred on the disk, thus reducing fatigue. Consider either a lawn chair or a dedicated, adjustable observing chair. If you don't need it, avoid using a star diagonal on your telescope refractors, as it reverses the image and just adds another piece of glass to absorb light.

If you have not done planetary drawing before, to prepare yourself, place an image of Mars across the room so it will be about the size you expect see in your telescope, and practice making drawings. Soon you will become more adept at rendering what you see on paper. Continued practice will allow you to hone your skills, and you will produce a drawing that you are happy with. The figure on the next page shows a series of steps that illustrate the development of a drawing.

You can use a set of maps at the telescope to orient yourself to the observing area, but there are also very good apps for mobile devices for use at the telescope. For the iPhone and iPad, look for MARS GLOBE on the iOS App Store (there is a



MacOS version as well, called MARS ATLAS). For the Android devices, look for PHYSICAL MARS on Google Play. These will provide up-to-the minute data and information about Mars, along with globe views

### Final Image Treatment and Sharing

Once indoors, when you have all the data recorded and the drawing cleaned up, you can scan it into a graphic editing program and use the computer to adjust levels and contrast, and to apply selective blurring tools to achieve a look similar to that in the eyepiece. Clouds and polar caps can also be brightened.

**MARS** Instrument: 80mm f/15 Achromat

---

North Polar region remains cloud streaked  
Some suspected over South polar region.

S  
P F  
N

**Comments:**  
Visual 175X - 211X TV 3X barlow, TV Mars Bandmate filters

---

<b>Date:</b> 02 August 0300 UT	<b>Phase:</b> 87.2 <b>D:</b> 12.9" <b>Ls:</b> 196.4 <b>De:</b> 12.7
<b>CM:</b> 286.1 degrees	<b>Filters:</b> A & B <b>Alt:</b> 16 degrees <b>Ds:</b> -6.8
<b>Seeing:</b> II (Antoniadi)	<b>Observer:</b> Denis Fell
<b>Transparency:</b> 5/5 clear	<b>Location:</b> Kennedy, SK, Canada 50 N 102 W -6 UT

Links to sites where you may upload your image and view the work of others:

1. Yahoo Mars Observers Group  
<https://groups.yahoo.com/neo/groups/marsobservers/info>
2. ALPO 2018 Mars apparition  
[http://www.alpo-astronomy.org/jbeish/2018\\_MARS.htm](http://www.alpo-astronomy.org/jbeish/2018_MARS.htm)
3. ALPO Japan Mars  
<http://www.kwasan.kyoto-u.ac.jp/~cmo/cmomn4/CMO465.pdf>
4. International Mars Observers  
[www.mars.dti.ne.jp/~cmo/ISMO.html](http://www.mars.dti.ne.jp/~cmo/ISMO.html)

As always, Denis welcomes questions or comments on this topic, email at [denisfell872@gmail.com](mailto:denisfell872@gmail.com). Enjoy Mars 2018 and share your drawings and experiences.