**Next:** [9 Day Old Moon](\\\\phys-file\\Moon\\Day09.php) **Up:** [The Daily Moon](\\\\phys-file\\Moon\\Daily_Moon.php) **Previous:** [7 Day Old Moon](\\\\phys-file\\Moon\\Day07.php)   **[Table of Contents](\\\\phys-file\\Moon\\index_Moon.php)**   **[Index of Features](\\\\phys-file\\Moon\\List_Features.php)**

## Eight Day Old Moon‡

The Waxing Gibbous Moon will be visible from the afternoon through late evening. The Moon rises after noon and sets after midnight, transiting around sunset (the observer's latitude and the season affects the exact times). It is easily bright enough to be obvious in the daytime sky. The best time to observe will be in the early evening, during the first hours of darkness, while it is near the zenith.

**Key Features to Observe Tonight**

The westward movement of the terminator has now revealed half of the **Mare Imbrium**, appearing as a flat dark semicircle lying midway between the northern pole and the equator. On the northern shore lies the distinctive dark smooth circle of **Plato**.

North of Plato, runs **Mare Frigoris**, a very long horizontal band of smooth dark lava. In the extreme northern area is an interesting crater pair: **Goldschmidt**, and **Anaxagoras**, which impacted and annihilated the western half of Goldschmidt. Anaxagoras's depth results in the Sun's light being unable to strike the entire floor; part stays in permanent, freezing darkness.

On the vast Imbrium plain itself are many exciting objects to observe. Beginning in the north are the mountains **Mons Pico** and **Mons Teneriffe**, which stand out nicely tonight. To their east are the **Alps** and the **Alpine** **Valley** which first appeared last night. The magnificent mountain range which forms the eastern border of the Imbrium is the **Apennine** **Mountains**. They are so spectacular that they can be seen with the naked eye. If the phase is just right their sunlit peaks jut out over the terminator, and for a few hours the little projection of light is easily visible.

South, midway to the southern end of Mare Imbrium, is **Aristillus** with its fine central peak, and southwest of it lies the larger smooth-floored ring crater **Archimedes**, which appears very similar to the larger and darker Plato.

Closer to the terminator, a bit further south, is the small crater **Timocharis** with its ejecta spray appears up brightly against the dark lava of the mare. Due south of it, close to the terminator, is the arresting crater **Eratosthenes**, with a prominent central peak. Eratosthenes lies on Imbrium's southern edge, which is bounded by the spectacular **Apennine** mountain range. The Apennines begin east of Eratosthenes and sweep to the northeast in a tremendous arc.

Southeast of Eratosthenes is **Sinus Aestuum** (the Seething Bay), an oval or even rectangular looking plain with a lighter albedo than Imbrium. To its southeast by about twice its width is the chain of three craters first seen last night: the large walled plain **Ptolemaeus** **(Ptolemy)**, and two ring mountain craters, **Alphonsus** and **Arzachel**. The changed illumination on them tonight gives them quite a different look and reveals new details.

Southwest of Arzachel lies the small crater **Thebit**. A much smaller crater which impacted its west wall gives it the appearance of a woman's ring. Just west of Thebit lies the famous **Straight Wall**, more formally named **Rupes Recta**, on the eastern edge of **Mare Nubium**. This nearly vertical black line is a sharp fault facing west (with its lower side is to the west). In two weeks, the Sun will illuminate it from its other side, and it will appear as a bright line.

The southern edge of the Mare Nubium is marked by the walled plain **Pitatus**. The smaller crater on the western edge of it is **Hesiodus**, another worn looking crater. There is a break in the rim wall they share, which produces the **Hesiodus Sunrise Ray**, a beam of light which shines across the floor of the crater for a short time, through the gap, when the waxing terminator is close. South of them is the still smaller **Hesiodus A**, an example of a very rare double concentric crater (the result of an impact being followed by another, smaller impact at the same spot).

In contrast to the dark Mare Nubium, **Tycho** is an impressive bright crater whose striking appearance will increase in the coming nights as its enormous ray system comes fully into view. Its ejecta material dominates the entire southern hemisphere of the Moon.

Be sure to look about two diameters southeast of Tycho at the impressive walled plain crater **Maginus**, with its incredibly high walls. It appears its best tonight; by Full Moon it will be completely lost in the lunar glare of Tycho's rays.

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**Next:** [9 Day Old Moon](file:///\\phys-file\Moon\Day09.php) **Up:** [The Daily Moon](file:///\\phys-file\Moon\Daily_Moon.php) **Previous:** [7 Day Old Moon](file:///\\phys-file\Moon\Day07.php)   [**Table of Contents**](file:///\\phys-file\Moon\index_Moon.php)   [**Index of Features**](file:///\\phys-file\Moon\List_Features.php)