**Next:** [8 Day Old Moon](\\\\phys-file\\Moon\\Day08.php) **Up:** [The Daily Moon](\\\\phys-file\\Moon\\Daily_Moon.php) **Previous:** [6 Day Old Moon](\\\\phys-file\\Moon\\Day06.php)   **[Table of Contents](\\\\phys-file\\Moon\\index_Moon.php)**   **[Index of Features](\\\\phys-file\\Moon\\List_Features.php)**

## Seven Day Old Moon (First Quarter)‡

The Moon is at the First Quarter, meaning it has gone through one quarter of the lunar cycle from one New Moon to another. The entire right half is now illuminated, which makes for a sensational view.

The Moon rises near noon and sets around 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 during the first hours of darkness, while it is near the zenith.

**Key Features to Observe Tonight**

In the northern hemisphere the **Mare Serenitatis** is positioned nicely for observation tonight. Its southeast border merges with the **Mare Tranquillitatis**, while its western shore is defined by two magnificent mountain ranges, the **Montes Caucasus** and the **Montes Haemus**. Due north of the Caucasus are the **Montes Alpes (Alps****)**.

Immediately west of Serenitatis now appears the eastern end of the great **Mare Imbrium**. It takes three more nights to fully emerge from the darkness. Midway down is the striking pair of **Aristillus** and the slightly smaller **Autolycus** south of it. Close to the terminator, about twice the distance between these two craters to the northwest is **Piton**, an isolated mountain. Very few of these exist on the Moon - most lunar mountains belong to ranges such as the Alps, found on the northern edge of Mare Imbrium.

Also here is the **Alpine Valley**, which cuts so clean through the mountains that it looks as though some gigantic object just wiped the peaks out of its way (as a "grazing meteorite" theory seems farfetched, it is thought to be due to a surface collapse.) The sharp gash of the Alpine Valley runs northeast across the uplands to the **Mare Frigoris** to the north. With a larger telescope, a narrow river-like rille may be seen winding along inside its floor.

The craterlet **Linné** lies to the east, near a break in the Caucasus, on the Mare Serenitatis. Even though it may be invisible with smaller binoculars, it has created much controversy over the years. The look of a region changes amazingly from night to night as the sunlight strikes it from changing angles, and the Linné situation may be just observing errors by earlier observers.

Catching the eye near the terminator itself about midway between the cusps is a string of major craters running down the central meridian. Starting from the north and moving south are **Ptolemaeus**, **Alphonsus**, and **Arzachel**. After a small gap where the much smaller crater **Thebit** lies, come **Purbach**, **Regiomontanus** and **Walter**. They appear as two clusters, making a prominent landmark.

Ptolemaeus is a magnificent ruined crater, lying just north of center of the lunar disk. With low-power binoculars its floor appears featureless, but higher-power binoculars and almost any telescope will reveal many small features. **Alphonsus** is just north of the lunar equator and **Arzachel** is just south. To their left between them is the much smaller **Alpetragius**, with a massive central peak. In the southern trio, note how Purbach has impacted on top of the older crater Regiomontanus to its south.

North of Ptolemaeus, the neighboring crater, **Hipparchus**, is slightly smaller but just as magnificent. It has been so modified by geological forces that it is difficult to recognize except when close to the terminator, as tonight.

**Mare Vaporum**, lies mostly below the lunar equator. It is roughly the same size as the **Mare Crisium**, but with a less well defined border.

About level with Vaporum is **Manilius** on its northeast shore. Manilius is a bright crater, with a minor ray system which becomes more distinct as the Moon waxes.

To its southwest is the still smaller **Sinus Medii**, now fully illuminated, which contains the center point of the lunar disc from which latitude and longitude are measured.

The **Hyginus** **Rille** a long valley, between Vaporum and Sinus Medii, will appear its best tonight. It appears as a thread-like line through a small telescope and reveals more detail in larger telescopes.

To the southeast of the Sinus Medii by roughly its diameter is the ring mountain **Albategnius**. It has rounded features, indicating age, and the sharp relief it shows this night will lessen in the coming nights as the terminator moves away from it. This crater's wall is interrupted by several more recent craters. The most prominent of these is the crater **Klein** to the southwest.

Due south from here, just short of the southern cusp by about the diameter of Albategnius, is the worn crater **Curtius**, a very dark looking impact. Parts of it may stay in permanent darkness due to its latitude and steep slopes. Foreshortening effects makes it appear oval.

‡with permission from **Lunar Discoverer User's Manual** by Robert Duvall, 2013

**Next:** [8 Day Old Moon](file:///\\phys-file\Moon\Day08.php) **Up:** [The Daily Moon](file:///\\phys-file\Moon\Daily_Moon.php) **Previous:** [6 Day Old Moon](file:///\\phys-file\Moon\Day06.php)   [**Table of Contents**](file:///\\phys-file\Moon\index_Moon.php)   [**Index of Features**](file:///\\phys-file\Moon\List_Features.php)