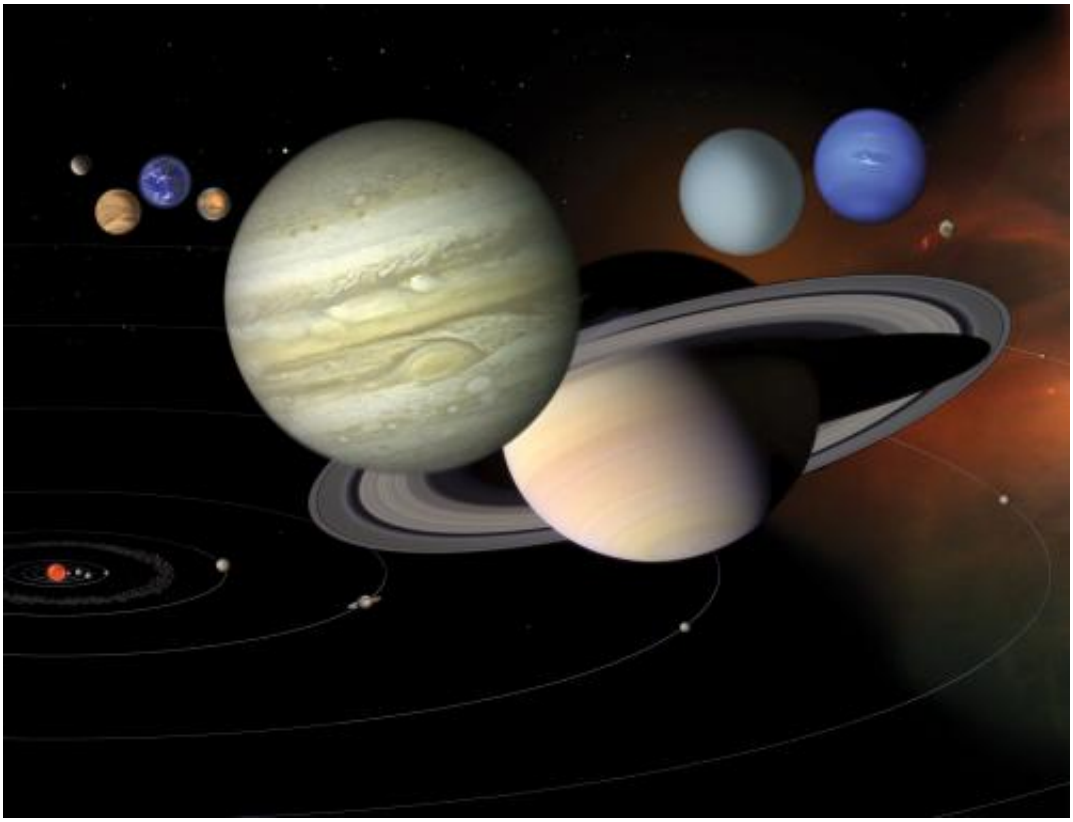
Tracking the night sky for January 2015

January 5 2015



Jupiter will dominate the night during January from the time it rises until dawn, soaring high across the sky in the constellation Leo the Lion about 10 degrees northwest of Leo's brightest star, Regulus.

The giant planet will rise around 8 p.m. local time as the new year begins, but only about 20 minutes after sunset by month's end. Jupiter is

approaching opposition on Feb. 6, and it will be a splendid sight all month in telescopes and binoculars, appearing highest in the south after midnight.

Venus and Mercury will linger near each other in evening twilight through the first half of January. Look for them low in the west-southwest, with brilliant Venus far outshining Mercury. About 45 minutes after sunset Jan. 10, the two planets will appear less than 1 degree apart. In the third week of the month, Mercury will quickly drop away from Venus, disappearing into the solar glare before passing in front of the sun Jan. 30.

Mars will appear about an hour after sunset 20 degrees to the upper left (south) of Venus and Mercury, an orange dot much dimmer than Venus and even fainter than Mercury.

The hour before morning twilight begins will be the best time to view Saturn in the southeastern sky. It will rise by 4:30 a.m. at the beginning of the month and about two hours earlier by month's end. Its rings will be tilted nearly 24 degrees from edgewise, offering a fine view in a telescope.

Meteor shower

The Quadrantid meteor shower will be active for the first week of January, peaking during the hours before dawn Jan. 3. Unfortunately the moon will be almost full, and moonlight will interfere with the display of bright streaks. The moon will be low in the west, so try hiding it behind a building or tree as you watch for meteors.

The Quadrantids will appear to come from a point called the radiant near the end of the handle of the Big Dipper, which will rise in the northeast. The radiant is in the constellation Bootes the Herdsman, which contains

the bright orange star Arcturus as a conspicuous marker.

Try facing toward the Big Dipper. If you extend the curve formed by the handle's three stars, it forms an "arc to Arcturus." Meteors should be visible in all parts of the sky, but the higher Arcturus is above the eastern horizon, the more meteors there will be. More information about viewing meteor showers is available from the American Meteor Society.

Perihelion

Earth will be closest to the sun in its orbit, the position called perihelion, at 1:37 a.m. EST (6:37 Universal Time) Jan. 4. A common misconception is that our seasons are caused by Earth's changing distance from the sun, but the actual cause is the tilt of Earth's axis.

In the Northern Hemisphere, winter happens when the North Pole is tilted away from the sun, so sunlight must pass through a greater amount of Earth's atmosphere to reach the surface. We actually experience the coldest time of year when we are closest to the sun.

Moon phases

The moon will be full on Jan. 5, at third quarter on Jan. 13, new on Jan. 20 and at first quarter on Jan. 27.

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