RASC Calgary Centre - Current Astronomical Highlights

by Don Hladiuk

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ASTRONOMICAL HIGHLIGHTS provides information about space science events for the upcoming month. The information here is a rough transcript of information covered on the popular CBC Radio One Calgary Eyeopener segment on 1010 AM and 99.1 FM usually on the first or second Monday of each month at 7:36 AM. Don is a life member of the Royal Astronomical Society of Canada and was twice President of the Calgary Centre. Since June 1984, Don has had a regular radio column on the Eyeopener describing monthly Astronomical Highlights to southern Albertans

For additional sources of sky information see the list of links below this month's article.

For information about the Calgary Centre of the RASC, please visit our web site.

ASTRONOMICAL HIGHLIGHTS

February 2026

Broadcast Date: February 2, 2026

Going back to the Moon (Finally)

It has been over 50 years (December 1972) since humans were last in the vicinity of our closest celestial neighbour, our Moon. If all goes as planned, as early as February 8th, a crew of four astronauts will launch from Florida and go on a 10 day mission around the Moon and back to Earth.

The mission is called Artemis II with NASA astronauts Reid Wiseman (Commander), Victor Glover (Pilot), Christina Koch (Mission Specialist 1) and Canadian Space Agency astronaut Jeremy Hansen (Mission Specialist 2).

This is the first crewed mission to fly around the Moon in over 50 years. This will be the first time a woman, a person of colour and a non-American will leave Earth orbit. The crew will also travel the farthest distance from Earth and beyond the Moon than any other human spaceflight.

The Artemis II Crew (L to R): Reid Wiseman, Victor Glover, Christina Koch and Jeremy Hansen. Credit: D. Hladiuk.

If the Orion spacecraft is functioning as expected after the first day in Earth orbit, the crew will initiate the Translunar Injection (TLI) burn using Orion's main engine. This will send Orion and its 4-person crew on a free return trajectory around the Moon. Meaning if the main engine malfunctions, the spacecraft will naturally return to Earth with no other engine firings required.

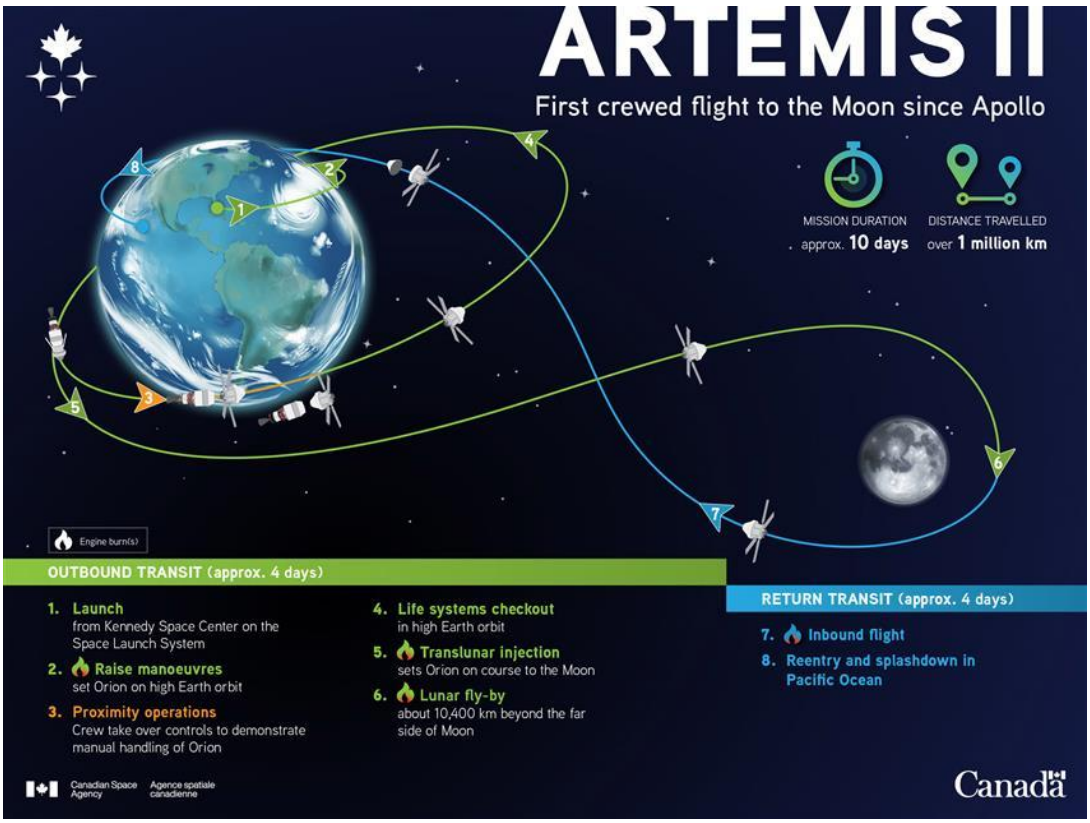


Diagram illustrating the path of the Artemis II mission. Credit: Canadian Space Agency

As the spacecraft drifts towards the Moon the crew will conduct several experiments. These will include deep space communications tests, investigations into the human body's adaptation to deep space and studies of the lunar geology on the far side of the Moon.

The crew's immune system will also be compared with saliva samples collected before, during and after the mission. The astronauts will wear a wristwatch-like device to record the crews' activity and sleep cycles. Another experiment will study samples of the crew's bone marrow before and after the flight to look for any adverse effects from radiation on human cells.

The crew is also taking some special mementos on this lunar fly around mission. Onboard will be a piece of fabric from the original Wright flyer (the first powered flight), a US flag that flew on the first and last shuttle missions, a negative of a photo that was captured by Ranger 7. Both NASA and the CSA have provided various tree seeds that will be distributed across the continent after they return to Earth (these trees will be known as Moon Trees). There will be an SD card with the millions of names that signed up for the Send Your Name to Space campaign. There are also various mission stickers and patches from NASA, ESA and the CSA that will be flown in the cabin.

Approximately 10 days after launch the Orion capsule will separate from the service module exposing the capsule's heatshield. The heatshield is designed to protect the crew as the capsule enters the Earth's atmosphere at ~40,000 km/hr. The heatshield will experience temperatures around 1600^0 C. After re-entry the spacecraft will deploy parachutes for a gentle landing in the Pacific Ocean off the coast of California. Recovery teams will have the capsule and crew safely onboard a ship within two hours after splashdown.

Orion's heatshield after the Artemis I test flight in 2023. Note the uneven scarring. Credit: NASA

There is still some controversy about the reliability of Orion's heatshield. After the Artemis I uncrewed test flight, engineers noticed chunks of the heatshield had been ripped away. Although the spacecraft survived re-entry, this is not what NASA engineers expected to see after this test flight. Flight planners are using a different re-entry profile to lessen the stresses on the heatshield for the Artemis II mission. However, there is a group of former NASA employees (Charlie Camarda and Danny Olivas to name two) who are adamant that this spacecraft should not be allowed to fly with a crew if there are any lingering doubts about the integrity of Orion's heatshield. Hopefully, NASA has done its homework, and the heatshield will protect the crew as it was designed to do so since it is far too late to make changes to flight hardware. For the Artemis III mission, the Orion heatshield will be redesigned.

The Artemis II launch window opens on February 8 at 9:20 pm MST and lasts for 2 hours. All the major news networks will have live coverage of this historic event. NASA will also be streaming live coverage on its website.

If you have never seen an SLS launch before, here is a video of the Artemis I launch from November 16, 2022 in cinematic format:

https://youtu.be/zctTKdQcmVA?si=CX0_-mDR-vrdjSFL

Spectacular Aurora (January 19-21)

On January 19-21, a blast from a powerful solar flare impacted our planet's magnetic field and sent streams of high energy particles into our atmosphere causing the oxygen and nitrogen to glow brightly and produce a spectacular display of the northern lights or Aurora Borealis.

This display was observed all over the globe, especially at the high and mid-latitudes. I was in Norway at this time and witnessed this natural light show off the northwest coast of Norway. The unaided eye was easily able to detect the red and green colours as well we could observe the rapidly rippling motion of the auroral curtain.

Here are a couple of my photos.

A couple of photos of a geomagnetic storm as seen from the western coast of Norway. Credit: D. Hladiuk

Normally a geomagnetic storm will last only a few minutes but this event went all night and into the next day.

What's Up in the February Sky

Planets

Mercury will be visible low in the western twilight after sunset by mid-February
Venus emerges low in the west after sunset by the end of February
Mars is too close to the Sun to be observed
Jupiter is the bright star-like object visible all night in the constellation Gemini
Saturn sinks lower to the western sky after sunset

Aurora Forecast

The Sun continues to be active. February could once again offer good opportunities to observe the aurora borealis.

Check websites like: https://spaceweather.com/ for the latest aurora prediction. There are also many aurora apps for Apple and Android products that will provide an aurora forecast. Remember, it is still just a forecast.

Artificial Satellites

The International Space Station (ISS) will be visible over Alberta in the early morning hours during the last half of February. Look for a bright, slow-moving, star-like object generally moving in a west to east direction. For future dates and times for ISS passes over Alberta, go to the website below and enter your location (important to change the default location to your location): https://www.heavens-above.com/

Another website for ISS passes is operated by NASA can be found here: https://www.nasa.gov/spot-the-station

Dates to Remember for February 2026

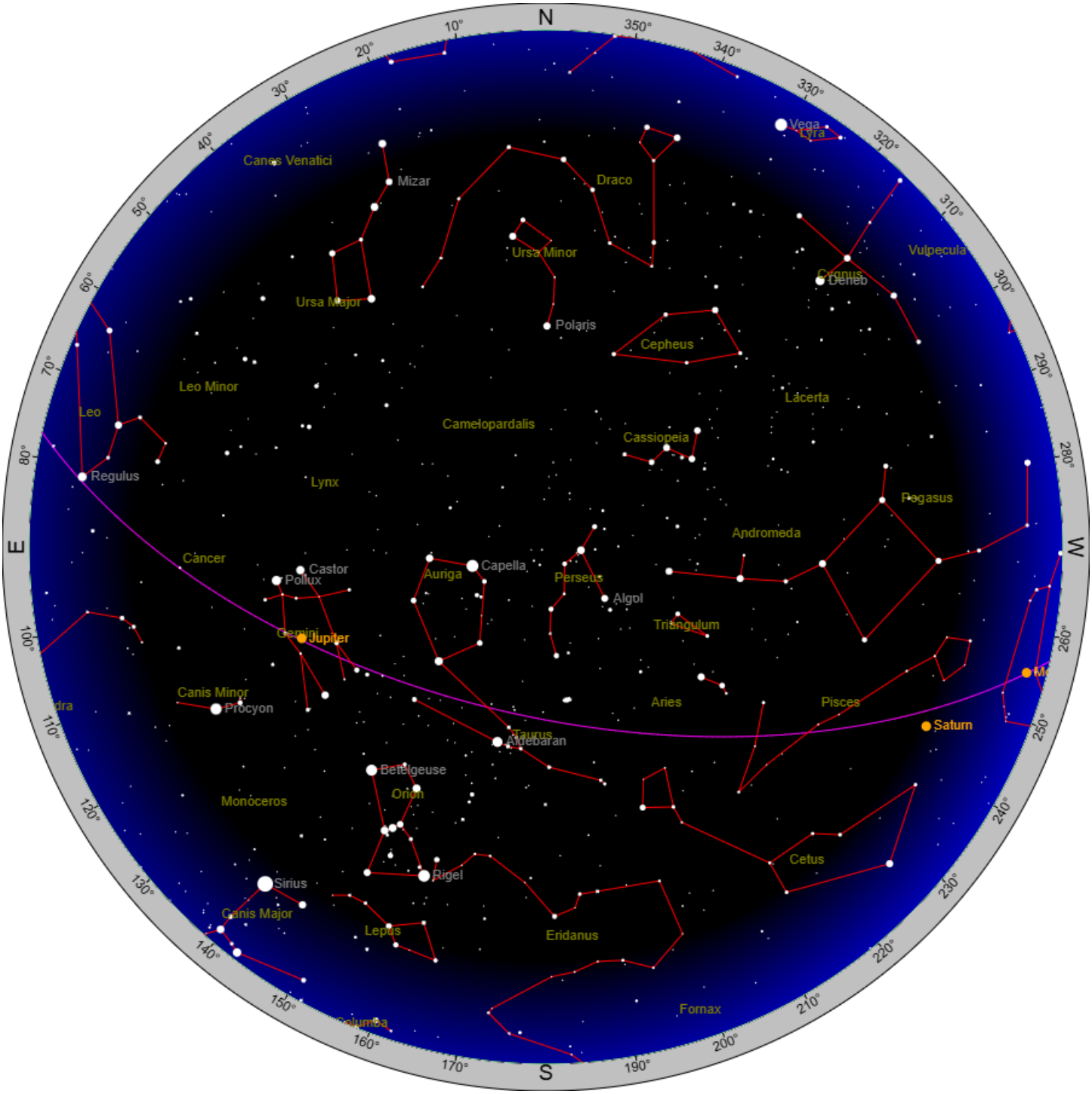
February 1: 23rd Anniversary of the Columbia re-entry accident
February 8-11: Launch window for the Artemis II mission with Canadian astronaut Jeremy Hansen
February 17: Chinese New Year (Year of the Horse)
February 19: Moon near Saturn low in the west after sunset
February 19: A free public astronomy lecture available on Zoom: https://calgary.rasc.ca/wp/?page_id=3687
February 21: Space Night at the University of Calgary's Rothney Astrophysical Observatory (Tickets are required). For more info go to: https://science.ucalgary.ca/rothney-observatory/public-events
February 23: Moon near the Pleiades star cluster
February 26: Moon near Jupiter
February 28: Moon near the Beehive open star cluster

Create an account on "X" (formerly Twitter) and follow Don at: https://X.com/astrogeo
Don is also on Bluesky at: https://bsky.app/profile/astrogeo.bsky.social

For more astronomy info and star charts go to: The Calgary RASC website

February Sky Chart

February 14 – 19:00 MST



Sky Chart courtesy of Heavens-Above.com

Don will be back on March 2, 2026 on the CBC Calgary EyeOpener at 7:37 a.m. MST.

Links to previous Sky Highlight background notes:

- January 2026
- December 2025
- November 2025
- October 2025
- September 2025
- August 2025
- July 2025
- June 2025
- May 2025
- April 2025
- March 2025
- February 2025

Other Sources of Current Sky Information

- Monthly Star Charts for the Calgary Area
- Calgary RASC Monthly Events Calendar
- Calgary Weather - from Environment Canada
- Heavens-Above Main Page (for Calgary) - ISS passes, Iridium Flares and Satellites visible from Calgary
- Dark Sky - generate a monthly calendar of Moon phases, Sunset/Sunrise, Moonset/Moonrise, hours of darkness etc.
- Astronomy Magazine
- Sky and Telescope Magazine
- Skymaps.com - download and print a monthly Evening Sky Map and Calendar
- Astronomy Picture of the Day
- Comets currently visible
- SkyHound - Current Observing Information