

JANUARY 2022

- 2 Jan 1997 (25-years) Colonel Ronald L. Larivee succeeded Colonel Patrick J. Carr as 45th Space Wing Vice Commander.
- 3 Jan 1962 (60-years) NASA publicly announced the name of the Gemini Program.
- 3 Jan 2002 (20-years) Former President Jimmy Carter and wife Rosalyn toured the Kennedy Space Center.
- 3 – 4 Jan 2022: **Quadrantids Meteor Shower.** The Quadrantids is an above average shower, with up to 40 meteors per hour at its peak. It is thought to be produced by dust grains left behind by an extinct comet known as 2003 EH1, which was discovered in 2003. The shower runs annually from January 1-5. It peaks this year on the night of the 3rd and morning of the 4th. The thin, crescent moon will set early in the evening leaving dark skies for what should be an excellent show. Best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Bootes, but can appear anywhere in the sky.
- 3 – 7 Jan 2022: **Indian Science Congress**, Symbiosis International University, Pune, India. <http://www.sciencecongress.nic.in>
- 5 Jan 1972 (50-years) President Nixon approves development of the Space Shuttle.
- 10 – 12 Jan 2022: **SpaceCom**, Orlando, Florida. In 2022, SpaceCom is developed in partnership with the **48th Spaceport Summit (formerly Space Congress)** – produced by the Canaveral Council of Technical Societies (CCTS) in partnership with the NASA-Kennedy Space Center (KSC). Spaceport Summer is an annual forum covering space initiatives through thought-provoking panel discussions from prominent, national and international speakers. This year, SpaceCom and Spaceport Summit are teaming up for a progressive program that provides the latest-breaking big picture insights and critical industry outlooks. <https://spacecomexpo.com>
- 12 Jan 1997 (25-years) STS-81 (Space Shuttle Atlantis) launched at 4:27 a.m. EST, KSC. Crew: Michael A. Baker, Brent W. Jett, Jr., John M. Grunsfeld, Marsha S. Ivins, Peter J. K. Wisoff, and Jerry M. Linenger. Fifth Mir docking. Astronaut John Blaha, who had been on Mir since September 19, 1996, was replaced by astronaut Jerry Linenger. Landed at KSC on January 22, 9:23 a.m., EST. Mission Duration: 10 days, 4 hours, 56 minutes.
- 15 Jan 1957 (65-years) Great Britain granted access to Antigua to allow the U.S. to build a range station.

- 15 Jan 1987 (35-years) First Navy Trident II launch, Complex 46.
- 16 Jan 1957 (65-years) Three Air Force B-52B's flew nonstop around the world, 24,325 miles in 45 hours, 19 minutes.
- 16 Jan 2002 (20-years) A Titan IVB Centaur carrying the USA 164, an American geosynchronous military communications spacecraft also referred to as MILSTAR was launched from Complex 40. This was the fifth launch in the Milstar 2 series.
- 17 Jan 1982 (40-years) First Trident missile launched from a Trident Class submarine, the U.S.S. Ohio, off the coast of Cape Canaveral.
- 17 Jan 1997 (25-years) Delta II carrying a NAVSTAR GPS satellite was launched from Pad 17-A, it explodes just 13-seconds later, raining debris back onto the pad and surrounding areas, including the grounds of the Air Force Space and Missile Museum.
- 17 Jan 2022: **Full Moon.** The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 23:51 UTC. This full moon was known by early Native American tribes as the Wolf Moon because this was the time of year when hungry wolf packs howled outside their camps. This moon has also been known as the Old Moon and the Moon After Yule.
- 18 Jan 1977 (45-years) First Navy Trident I launch, Complex 25, Pad C.
- 21 Jan 1957 (65-years) The Brazilian Agreement was signed, allowing American access to the island of Fernando de Noronha to construct a range station.
- 21 Jan 2022: **Museum Selfie Day.** Started by London blogger Mar Dixon, the Museum Selfie Day trend has gone worldwide and spawned a plethora of creative posts on social media ever since. Museums, archaic by nature, have always moved slowly to adopt new rules. Their "no photography" signs were implemented to discourage flash pictures, which degrade the quality of conserved works. But in today's world of high-sensitivity smartphone cameras, many more museums are relaxing their rules on photography in an effort to encourage more engagement with the public. Museum Selfie Day on January 21 is the perfect opportunity for people to get creative.
- 22 Jan 1992 (30-years) First exoplanet discovered (PSR B1257+12B). Aleksander Wolszcan and Dale Frail announce the discovery of two rocky planets orbiting PSR B1257+12, a pulsar some 2,300 lightyears away in the constellation Virgo.

- 22 Jan 1992 (30-years) STS-42 (Space Shuttle Discovery) launched at 9:52 a.m, EST, KSC. Crew: Ronald J. Grabe, Stephen S. Oswald, Norman E. Thagard, David C. Hilmers, William F. Readdy, Roberta L. Bondar (Canada), and Ulf D. Merbold (ESA-Germany). Carried in the cargo bay was the International Microgravity Laboratory 1 (IML-1) a pressurized manned Spacelab module, to explore in depth the complex effects of weightlessness on living organisms and materials processing. Landed January 30, 8:07 a.m., PST, Edwards Air Force Base, CA. Mission Duration: 8 days, 1 hour, 14 minutes.
- 25 Jan 1957 (65-years) First launch of a Thor IRBM, the missile exploded and burned on the pad, Complex 17, Pad-B. See 20 September 1957.
- 25 Jan 1962 (60-years) NASA authorizes development of the Saturn V rocket, see also 30 Dec 1957 (65 years) for when the Saturn vehicles were proposed.
- 26 Jan 1962 (60-years) Ranger 3 launched by Atlas Agena-B, Complex 12. Due to a series of malfunctions, the spacecraft missed the Moon by nearly 23,000 miles, and entered a heliocentric orbit.
- 27 Jan 1967 (55-years) **Apollo 1** fire at Complex 34 claims the lives of **Astronauts Grissom, White, and Chaffee.**
- 27 Jan 1967 (55-years) Outer Space Law Treaty signed, Washington, D.C. The Outer Space Treaty, formally the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, is a multilateral treaty that forms the basis of international space law. Negotiated and drafted under the auspices of the United Nations, it was opened for signature in the United States, the United Kingdom, and the Soviet Union on 27 January 1967, entering into force on 10 October 1967. As of February 2021, 111 countries are parties to the treaty—including all major spacefaring nations—and another 23 are signatories.

27 Jan 2022: **Florida Space Day**. Florida Space Day was developed to ensure that Florida remains at the forefront of the nation's space program, it is a milestone event that presents an opportunity to educate and bring awareness to Florida legislators on the significance of the aerospace industry and its impact on Florida's economy. The aerospace industry represents billions of dollars in annual economic impact and employs thousands of residents in the state's 67 counties. With the Space Shuttle retirement, it is imperative that government and industry work in partnership to create a cohesive and successful vision for Florida's role in space exploration. Florida's space industry representatives will visit Tallahassee to participate in Florida Space Day. Private companies, local, state and federal agencies, and academic institutions will participate in this unique, annual event, meant to educate our state leaders on the challenges and opportunities Florida has during this dynamic time in the space program. More information at: <http://floridaspaceday.com/>

29 Jan 1942 (80-years) **Mason M. Patrick**, namesake of Patrick Air Force Base, dies at the age of 78. He was born on 13 December 1863, retired as Chief of the Air Corps on 12 December 1927 (95-years ago this year).

FEBRUARY 2022

- 1 Feb 1977 (45-years) The Air Force Eastern Test Range (AFETR) organization was inactivated, and the 6550th Air Base Group assumed host responsibilities for Patrick AFB as the 6550th Air Base Wing. Other AFETR resources were combined under Detachment 1 of the Space and Missile Test Center (SAMTEC).
- 2 – 6 Feb 2022: **Space Coast Birding & Wildlife Festival.** Join live or online for the 25th anniversary event in our new location at the Radisson Resort at the Port in Cape Canaveral. <https://scbwf.org/home-3/>. Brevard Nature Alliance invites you to attend the 25th Annual Space Coast Birding and Wildlife Festival. Having outgrown the premises used for many years in the Titusville area we are pleased to announce that our new home for the 2022-2023-2024 festivals will be the Radisson Resort at the Port, Cape Canaveral, Florida. The Radisson Resort was chosen for many reasons - its expo center and meeting space facilities, proximity to airports, restaurants, attractions, and ease of access to the Merritt Island National Wildlife Refuge, Cape Canaveral National Seashore, and Kennedy Space Center. The Space Coast Birding and Wildlife Festival is a must-go-to festival for fabulous field trips, speakers, presentations, workshops, and photography and free expo center! On Saturday, February 5th, we will also feature the 3rd Annual Family Wildlife Adventure Day. Help us celebrate 25 years of amazing wildlife and of course, the birds! <https://scbwf.org/>
- 3 Feb 2022: **The New Space Roundtable**, virtual event.
<https://www.century21comms.com>
- 4 Feb 1967 (55-years) Lunar Orbiter 3 was launched by Atlas Agena-D booster from Complex 13, launch occurred on 5 February Universal time (UT). Lunar Orbiter 3 was NASA's final Lunar Orbiter mission to study potential Apollo landing sites. On 9 Oct 1967 (55 years ago), the probe was intentionally crashed onto the lunar surface.
- 5 Feb 1982 (40-years) Vice President George Bush lands at Shuttle Landing Facility, attends Spacelab dedication at the O&C building in the NASA Industrial Area.
- 5 Feb 2002 (20-years) HESSI (High Energy Solar Spectroscopic Imager) solar flare observatory launched at 3:58 PM EDT by a Pegasus XL rocket which was released from a L-1011 aircraft flying out of the Cape Canaveral AFS. Renamed Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) on March 29, 2002.

- 7 – 10 Feb 2022: **SmallSat Symposium**, Computer History Museum, Mountain View, California. <https://smallsatshow.com>
- 8 – 10 Feb 2022: **Global Space and Technology Convention**, Singapore
<https://www.space.org.sg/gstc/>
- 11 Feb 1992 (30-years) The Cape supported the first launch of an ATLAS II/CENTAUR featuring a military payload.
- 11 Feb 1997 (25-years) STS-82 (Space Shuttle Discovery) launch at 3:55 a.m. EST, KSC. Crew: Kenneth D. Bowersox, Scott J. Horowitz, Mark C. Lee, Steven A. Hawley, Gregory J. Harbaugh, Steven L. Smith, and Joseph R. Tanner. Second in a series of planned servicing missions to the orbiting Hubble Space Telescope (HST). Landed February 21 at 3:32 am EST, KSC. Mission Duration: 9 days, 23 hours, 38 minutes.
- 13 Feb 1957 (65-years) First Bomarc missile launched from the interim tactical launcher, not the first Bomarc launched, just the first from the tactical launcher. Launch occurred from Complex 4.
- 13 Feb 2022: **Daytona 500 Flyover (USAF Thunderbirds)**. Daytona International Speedway.
- 14 Feb 1972 (50-years) USSR launches Luna 20 (Lunik 20) at 03:27:59 UTC by Proton K from Baikonur which soft lands on the Moon four days later. A rotary-percussion drill retrieved samples from the surface which were returned to Earth by capsule on February 25.
- 16 Feb 2022: **Full Moon**. The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 16:59 UTC. This full moon was known by early Native American tribes as the Snow Moon because the heaviest snows usually fell during this time of the year. Since hunting is difficult, this moon has also been known by some tribes as the Hunger Moon, since the harsh weather made hunting difficult.
- 17 Jan 1997 (25-years) A DELTA II carrying the NAVSTAR GPS IIR-1 replenishment satellite exploded about 13 seconds after lift-off from Pad 17A. No one was killed or hurt in the Class A mishap, but private property damage (including leased trailers and privately owned motor vehicles) came to approximately \$429,000.

A Compendium of Aerospace Anniversaries and Events by
Roger McCormick, Air Force Space and Missile Museum

- 17 Feb 2007 (15-years) THEMIS 1, THEMIS 2, THEMIS 3, THEMIS 4, and THEMIS 5, a fleet of nearly identical NASA magnetospheric satellites were launched by a Delta 2 from Complex 17 at Cape Canaveral. As part of Time History of Events and Macroscale Interactions during Substorms or THEMIS, they are designed to track the origins of substorms within the Earth's magnetic field, which produce auroras. NASA sponsored the mission to explain what triggers electrically explosive solar wind storms more commonly known as "the Northern Lights."
- 18 Feb 1977 (45-years) First captive flight of the Space Shuttle Enterprise, see also 18 June 1977 (45-years) first manned captive flight, and 12 August 1977 (45-years) first free flight. The flights were conducted at the Dryden Flight Research Center, California.
- 18 Feb 1982 (40-years) First Penguin surface-to-surface missile launch by the Navy, nine launches carried out between February and April 1982. Launches were from a patrol boat. See 8 April 1982.
- 19 Feb 1942 (80-years) The tanker "SS Pan-Massachusetts" was torpedoed by U-128 some 30-nautical miles East of the Cape while enroute from Texas to New York. The ship was struck by two torpedoes, twenty men were lost, 18 survived.
- 20 Feb 1962 (60-years) John Glenn becomes the first American to orbit the Earth, Mercury-Atlas 6 (MA-6) launched from Complex 14, Friendship 7 was the name of the capsule.
- 21 Feb 2002 (10-years) Lockheed Martin launched its first Atlas IIIB Centaur from Pad 36B. The payload was the EchoStar VII communications satellite. The launch was successful.
- 22 Feb 1942 (80-years) Tanker "Cities Service Empire" was torpedoed by U-128 less than 30-nautical miles East of the Cape. The 465-foot-long tanker was owned by the Cities Service Oil Company. The ship was on its way from Port Arthur, Texas, to Philadelphia with a load of petroleum. Fourteen men were lost, 36 survived.
- 23 Feb 1962 (60-years) President John F. Kennedy lands at the Skid Strip, came to the Cape to present Astronaut Glenn with the NASA Distinguished Service Medal, ceremony held in front of Hangar S in the Cape Industrial Area.
- 23 Feb 1962 (60-years) Vice President Lyndon B. Johnson lands at PAFB, travels in a parade through Cocoa Beach with Astronaut Glenn for a medal ceremony with President John F. Kennedy.

A Compendium of Aerospace Anniversaries and Events by
Roger McCormick, Air Force Space and Missile Museum

- 23 Feb 1997 (25-years) First Titan IV-B launch, Complex 40. It carried a Defense Support Program (DSP) payload equipped with an Inertial Upper Stage (IUS). The launch was successful.
- 23 – 25 Feb 2022: **Spanish Small Satellites International Forum (SSIF)**, Malaga, Spain. <https://sssif.com>
- 24 Feb 2022: **GovSatCom**, European Convention Center, Luxembourg
<https://www.govsatcom.lu/govsatcom/2022/>
- 28 Feb 2007 (15-years) Workers reinstalled the lighthouse's lamp room, light, and roof. The event marked the completion of the year-long restoration project of the Cape Canaveral Lighthouse.
- 28 Feb – 1 Mar 2022: **Museums Advocacy Day**, #MuseumAdvocacy2022
<https://www.aam-us.org/programs/museums-advocacy-day/>
- End of February 1987 (35-years) Debris from the Space Shuttle Challenger mishap was placed in the CCAFS Complex 31/32 silos. The stairwells leading to the storage areas were capped with heavy concrete lids on or about 1 March 1987.

MARCH 2022

- 1 Mar 1912 (110-years) Captain Albert Berry makes first parachute jump from a powered plane.
- 1 Mar 1957 (65-years) First operational prototype Jupiter 1A missile launched, exploded shortly after liftoff from Complex 5.
- 1 Mar 2002 (20-years) STS-109 (Space Shuttle Columbia) launched at 6:22 a.m. EST, KSC. Crew: Scott D. Altman, Duane G. Carey, John M. Grunsfeld, Nancy J. Currie, James H. Newman, Richard M. Linnehan, and Michael J. Massimino. This is the fourth servicing mission to the Hubble Space Telescope. Landed March 12, 2002, 4:32 a.m., EST at KSC. Mission Duration: 10 days, 22 hours, 11 minutes.
- 2 Mar 1972 (50-years) Pioneer 10 launched, Complex 36, Pad-A, on an Atlas-Centaur booster, first interplanetary mission to the planet Jupiter, and became the first spacecraft to achieve escape velocity from the Solar System. Also the first spacecraft to traverse the asteroid belt between Mars and Jupiter. Today Pioneer 10 is in deep space, heading in the general direction of the star Aldebaran in the constellation Taurus the Bull.
- 5 – 12 March 2022: **IEEE Aerospace Conference**, Yellowstone Conference Center, Big Sky, Montana. <https://aeroconf.org>
- 6 Mar 1937 (85-years) Valentina Nikolayevna Tereshkova was born in the Maslennikovo Yaroslavl Region, USSR. First woman in space aboard Vostok 6 (June 16, 1963).
- 6 Mar 1967 (55-years) Submarine USS Mariano G. Vallejo (SSBN 658) launched its first missile (Polaris A3P-549) off the coast of Cape Canaveral.
- 7 Mar 1947 (75-years) First photograph taken from space from a V2 rocket 100 miles above White Sands, New Mexico.
- 7 Mar 1962 (60-years) First Orbiting Solar Observatory (OSO 1) launched, from Complex 17, Pad A, aboard a Thor-Delta booster.

9 Mar 2007 (15-years) FalconSAT-3, an American military (DARPA) picosatellite, was one of six DARPA military satellites launched by an Atlas 5 Centaur rocket from Complex 41 at Cape Canaveral. Built by USAF Academy cadets, it monitored the ambient plasma, and tested a micro-propulsion attitude control system. The success of FalconSAT-3 is an excellent example of how amateur radio can be integrated into the curriculum of an education institution for the benefit of the students and the amateur radio service.

13 Mar 1957 (65-years) First launching (a dynamic dummy model) was conducted under the Bull Goose program. Launch was Complex 22.

14 – 15 Mar 2022: **Paris Space Week**, Espace Grande Arche, Paris, France
<https://www.paris-space-week.com>

16 Mar 1962 (60-years) First Titan II launch, Complex 16.

16 – 18 Mar 2022: **Robert H. Goddard Memorial Symposium**, in-person and online
<https://astronautical.org/events/goddard/>

17 Mar 1972 (50-years) NASA issues request for proposals for the Space Shuttle.

18 Mar 2022: **Full Moon**. The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 07:20 UTC. This full moon was known by early Native American tribes as the Worm Moon because this was the time of year when the ground would begin to soften and the earthworms would reappear. This moon has also been known as the Crow Moon, the Crust Moon, the Sap Moon, and the Lenten Moon.

19 Mar 1957 (65-years) Contract was let for construction of Launch Complex 25 at Cape Canaveral.

20 Mar 2022: **March Equinox**. The March equinox occurs at 15:24 UTC. The Sun will shine directly on the equator and there will be nearly equal amounts of day and night throughout the world. This is also the first day of spring (Vernal equinox) in the Northern Hemisphere and the first day of fall (Autumnal equinox) in the Southern Hemisphere.

21 Mar 2017 (5-years) President Donald Trump signed the NASA Transition Authorization Act of 2017

21 – 24 Mar 2022: **Satellite 2022**, *Walter E* Washington Convention Center, Washington DC, USA. <https://www.satshow.com>

- 22 Mar 1952 (70-years) Colliers magazine published its first space symposium under title: "Man Will Conquer Space Soon."
- 22 Mar 1952 (70-years) Wernher von Braun proposes a spinning-wheel shaped space station.
- 22 Mar 1982 (40-years) STS-3 (Space Shuttle Columbia) launched, 11:00 a.m., EST, KSC. Crew: Jack R. Lousma and C. Gordon Fullerton. Continued testing of Space Shuttle systems for qualification for operational flights. Landed March 30, 11:05 a.m., EST, White Sands, N.M. Mission Duration: 8 days, 4 minutes.
- 23 Mar 1912 (110-years) Wernher von Braun born, Wirsitz, Germany, (dies 16 June 1977, 45-years ago this year).
- 24 Mar 1992 (30-years) STS-45 (Space Shuttle Atlantis) launched March 24 at 8:13 a.m. EST, KSC. Crew: Charles F. Bolden, Brian Duffy, Kathryn D. Sullivan, David C. Leestma, C. Michael Foale, Byron K. Lichtenberg, and Dirk D. Frimout (Belgium). Carried first Atmospheric Laboratory for Applications and Science (ATLAS-1) on Spacelab pallets mounted in orbiter's cargo bay. Landed April 2, 6:23 a.m., EST, KSC. Mission Duration: 8 days, 22 hours, 9 minutes.
- 24 Mar 1997 (25-years) Death of **Martin Caiden**, a prolific author of fiction and nonfiction. He was born 14 September 1927, 95 years ago this year.
- 26 Mar 2022: **Earth Hour**, 8:30 p.m. local time. Earth Hour is a worldwide movement organized by the [World Wide Fund for Nature](https://www.worldwildlife.org/) (WWF). The event is held annually, encouraging individuals, communities, and businesses to turn off non-essential electric lights, for one hour, from 8:30 to 9:30 p.m., as a symbol of commitment to the planet.
- 26 – 27 Mar 2022: **McDill AFB Tampa Bay AirFest 2022**. McDill Air Force Base. <https://www.tampabayairfest.com/>
- 27 Mar 1997 (25-years) Brigadier General (select) F. Randall Starbuck succeeded Brigadier General Robert C. Hinson as 45th Space Wing Commander.
- 28 – 31 Mar 2022: **IEEE International Conference on Space Optical Systems and Applications (ICSOS)**, Kyoto, Japan. <https://icsos2022.ieee-icsos.org>

A Compendium of Aerospace Anniversaries and Events by
Roger McCormick, Air Force Space and Missile Museum

29 Mar 2022: **Space + Terrestrial - the IoT Connection (sessions 7 and 8)**, virtual event <https://www.century21comms.com>

31 Mar 1962 (60-years) NASA approves final design of the Gemini spacecraft.

APRIL 2022

- April 1967 (55-years) Demolition of the ocean fishing pier at PAFB was begun. The pier, constructed in 1959, had endured repeated poundings over the years from hurricanes and heavy seas.
- 1 Apr 2007 (15-years) The Department of Defense Manned Space Flight Support Office was inactivated at Patrick AFB, Florida, and its resources were transferred to Human Space Flight Support (HSFS) under the 45th Operations Group.
- 2 Apr 2022: **Gateway to Space 2022**, 5 and 10K run at KSC. In partnership with Space Florida the 6th Annual Gateway to Space 5K/10K will take place on April 2nd, 2022 on the iconic Launch and Landing Facility (formerly known as Shuttle Landing Facility) at Kennedy Space Center. For more information go to: [Gateway to Space 2022 - runsignup.com](https://runsignup.com/Race/FL/MerrittIsland/GatewaytoSpace2022) or to: <https://runsignup.com/Race/FL/MerrittIsland/GatewaytoSpace2022>
- 3 Apr 1967 (55 years) Submarine USS Francis Scott Key (SSBN 657) launched its first SLBM (Polaris A3P-401) off the coast of Cape Canaveral.
- 3 Apr 1967 (55-years) Paul Airey becomes first Chief Master Sergeant of the Air Force, he retired from the Air Force on 1 Aug 1970, he died on 11 Mar 2009.
- 4 Apr 1982 (40-years) Last Navy Penguin launch, first launch was on 18 Feb 1982 (40-years), all launches occurred in 1982 from a patrol boat.
- 4 Apr 1997 (25-years) STS-83 (Space Shuttle Columbia) Launched 2:20 EST from KSC. Crew: James D. Halsell, Susan L. Still, Janice E. Voss, Donald A. Thomas, Michael L. Gernhardt, Roger K. Crouch, and Gregory T. Linteris. It carried the Spacelab module containing resources for many microgravity experiments and a combustion facility for the study of the rise, spread, and extinction of flames under microgravity conditions. Landing at KSC on April 8, 1997, 2:33 p.m., EDT. Mission Duration: 3 days, 23 hours, and 13 minutes.

- 4 – 7 Apr 2022: **37th Space Symposium.** Connect, Engage and Prosper at the 37th Space Symposium by the Space Foundation. The Space Symposium, held at The Broadmoor in Colorado Springs, Colorado, USA, has brought together space leaders from around the world to discuss, address and plan for the future of space since the inaugural event in 1984. Attendees at that original event numbered barely 250 space enthusiasts. In recent years, the Space Foundation team has welcomed more than 14,000 people from around the world, including speakers, attendees, exhibitors, volunteers, educators and students. Space Symposium has become widely known as the premier U.S. space policy and program forum and as the “must attend” opportunity for information on and interaction among all sectors of space. Called the National Space Symposium for the first 29 years, the event was renamed in 2014 to Space Symposium to reflect the event’s truly global profile. <https://www.spacesymposium.org/#>
- 5 – 6 April 1997 (25-years) Patrick AFB hosted an Open House, more than 100,000 people reportedly attended the airshow and static displays.
- 5 – 10 Apr 2022: **48th Sun 'n Fun Aerospace Expo.** Lakeland Linder Regional Airport. <https://flysnf.org/aerospace-expo/purchase-tickets/>
- 6 Apr 1917 (105-years) United States enters World War I.
- 8 Apr 1982 (40-years) Last Penguin surface-to-surface missile launch by the Navy, nine launches carried out between February and April 1982. Launches were from a patrol boat. See 2 February 1982.
- 8 Apr 2002 (20-years) STS-110 (Space Shuttle Atlantis) launched at 4:44 p.m. EDT, KSC. Crew: Michael J. Bloomfield, Stephen N. Frick, Jerry L. Ross, Steven L. Smith, Ellen Ochoa, Lee M.E. Morin, and Rex J. Walheim. International Space Station Flight 8A. Delivered an ISS truss assembly. Landing at KSC on April 19, 12:27 a.m. EDT. Mission Duration: 10 days, 19 hours, 43 minutes.
- 10 Apr 1957 (65-years) Construction of Antigua Station started.
- 12 April 1942 (80-years) American steam freighter “SS Leslie” was torpedoed by U-123, about 17-nautical miles NE of the Cape. Four of her crew were lost, 28 survivors. This was U123’s last torpedo. See entry for 13 April 1942.

- 12 Apr 2022: **Yuri's Night 2022.** Yuri's Night is the World Space Party. Every year on or around April 12th the world celebrates all that humanity brings with us as we explore the cosmos: music, art, science, culture, and each other! Space is used to bring the world together, to empower the greatest parts of who we are, and give vision to where we are going. Join the world and rock the planet by planning an event or finding an event.
<https://yurisnight.net/>
- 13 Apr 1942 (80-years) Swedish freighter "Korsholm" was sunk by gunfire from U-123 some 12-nautical miles SE of the Cape. The U-123 had exhausted her store of torpedoes, having expended the last on her attack of the "Leslie" (see 12 April 1942). At 0400, a plane from the Banana River Naval Air Station arrived at the scene and dropped lift rafts and flares. Of the 26 crewmen on board, nine lost their lives, 17 survived.
- 13 Apr 1957 (65-years) First Navy Polaris FTV (flight test vehicle) launched, Complex 3.
- 14 April 1912 (110-years) Titanic sinks!
- 14 April 1917 (105-years) **Henry Wilson** died, buried in the Burnham Cemetery, Cape Canaveral Space Force Station. At the time he was the oldest resident of Brevard County, having lived here over 60 years.
- 15 Apr 1987 (35-years) The U.S. and the Soviet Union signed a new bilateral government-level agreement on civil space cooperation. The agreement called for cooperation in 16 specific project areas to be carried out by joint working groups in space science.
- 16 April 1972 (50-years) Launch of Apollo 16, the fifth manned landing on the surface of the Moon, John Young, Thomas Mattingly II, and Charles Duke.
- 16 Apr 2022: **Full Moon.** The Moon will be located on the opposite side of the Earth as the Sun and its face will be will be fully illuminated. This phase occurs at 18:57 UTC. This full moon was known by early Native American tribes as the Pink Moon because it marked the appearance of the moss pink, or wild ground phlox, which is one of the first spring flowers. This moon has also been known as the Sprouting Grass Moon, the Growing Moon, and the Egg Moon. Many coastal tribes called it the Fish Moon because this was the time that the shad swam upstream to spawn.
- 17 Apr 1967 (55-years) Surveyor 3 launched by Atlas Centaur, 2:39 a.m., EST, Cape Canaveral, Fla, landed on Moon 7:04 a.m., EST, April 19, 1967.

18 Apr 1942 (80-years) Lt. Col. Jimmy Doolittle leads B-25 bombers, "Doolittle's Raiders" on first U.S. bombing raid over Japan in World War II.

19 Apr 1962 (60-years) First Skybolt missile launch, it was air dropped from a B-52G aircraft at 40,000 feet altitude several miles east of Cape Canaveral. The drop and first stage ignition was successful, but ignition of the missile's second stage engine failed. The first fully successful launch would come on 22 December 1962 (55-years ago, this year).

19 Apr 2012 (10-years) NASA transferred Space Shuttle Discovery to the Smithsonian's National Air and Space Museum at formal ceremonies at the museum's Stephen F. Udvar-Hazy Center in Chantilly, Va.

22 Apr 2022: **Earth Day** is an annual event celebrated around the world on April 22 to demonstrate support for environmental protection. First celebrated in 1970, it now includes events coordinated globally by the Earth Day Network in more than 193 countries. <https://www.earthday.org/>

22 – 23 Apr 2022: **Lyrids Meteor Shower**. The Lyrids is an average shower, usually producing about 20 meteors per hour at its peak. It is produced by dust particles left behind by comet C/1861 G1 Thatcher, which was discovered in 1861. The shower runs annually from April 16-25. It peaks this year on the night of the night of the 22nd and morning of the 23rd. These meteors can sometimes produce bright dust trails that last for several seconds. The waning gibbous moon may block some of the fainter meteors this year, but there is still potential for a good show. Best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Lyra, but can appear anywhere in the sky.

23 Apr 1962 (60-years) First U.S. payload (Ranger 4) to land on the Moon was launched by an Atlas/Agena from Complex 12. Moon impact of the 730-pound payload occurred on 26 Apr 1962, about 64-hours after launch. Instrumentation failure prevented obtaining scientific data from the craft.

24 Apr 1962 (60-years) First transmission of TV pictures from space via Echo 1, a transmission was Received in Massachusetts from the NASA station in Goldstone, California. Echo 1 was a 100-foot diameter balloon that could reflect signals.

24 Apr 1967 (55-years) **Cosmonaut Colonel Vladimir Komarov** is killed during reentry due to parachute failure on his Soyuz 1 spacecraft.

25 Apr 1962 (60-years) Following sea trials, the USS *Sam Houston's* (SSBN 699) Blue Crew fired her first Polaris missile off Cape Canaveral.

25 Apr 1962 (60-years) Saturn-Apollo 2 (SA-2) was a suborbital test flight of the Saturn 1 booster from Complex 34. SA-2 was the second flight of the Saturn I launch vehicle, the first flight of Project Highwater, and was part of the American Apollo program. SA-2's dummy upper stages contained approximately 190,000 pounds of water which was released into the upper atmosphere. The cloud of water produced lightning-like effects, which Dr. Wernher von Braun described as "probably the first synthetic thunderstorm ever generated in space."

25 – 26 Apr 2022: **Military Space Disruptive Technology**, London, UK
<https://www.smi-online.co.uk/defence/uk/conference/small-satellites>

26 Apr 1962 (60-years) "Ariel" became the first international satellite in orbit, launched by a Thor-Delta booster from Complex 17, Pad A, to study the ionosphere, it was sponsored by NASA and the British National Committee for Space Research.

26 – 28 Apr 2022: **CubeSat Developers Workshop**. <https://www.cubesatdw.org>

27 – 28 April 2022: **Military Space Situational Awareness**, London, UK
<https://www.smi-online.co.uk/defence/uk/conference/milspace>

30 Apr 2022: **Partial Solar Eclipse**. A partial solar eclipse occurs when the Moon covers only a part of the Sun, sometimes resembling a bite taken out of a cookie. A partial solar eclipse can only be safely observed with a special solar filter or by looking at the Sun's reflection. This partial eclipse will be visible throughout most of the southeast Pacific Ocean and southern South America. It will be best seen from Argentina with 53% coverage.

30 Apr – May 1 2022: **Vero Beach Air Show 2022**. Vero Beach Regional Airport.
<https://www.veroairshow.com/>

30 Apr – May 1 2022: **Fort Lauderdale Air Show 2022**. Fort Lauderdale Beach.
<https://fortlauderdaleairshow.com/>

MAY 2022

May 1952 (70-years) Construction of the missile Skid Strip at Cape Canaveral was completed at a cost of \$680,351.49, construction was started on 9 Nov 1951.

1 May 1942 (80-years) British freighter “La Paz” was torpedoed by U-109, about 30-nautical miles ESE of the Cape, zero deaths, 57 survivors.

2 – 3 May 2022: **Interplanetary Small Satellite Conference.**
<http://www.intersmallsatconference.com>

3 May 1942 (80-years) British liberty ship “Ocean Venus” was sunk by a torpedo from U-564, less than 10-nautical miles east of the Cape. Five dead, 42 survivors.

3 May 1942 (80-years) Dutch steam merchant ship “Laertes” was sunk by a torpedo from U109, only 10-nautical miles SE of the Cape. A total of 18 of her crew went down with the ship, there were 48 survivors.

3 May 1952 (70-years) An Air Force C-47 aircraft made first successful landing at the North Pole.

4 May 1967 (55-years) Lunar Orbiter 4 was launched by an Atlas Agena-D booster from Complex 13. Lunar Orbiter 4 was the first in a series of missions dedicated to scientific surveys of the Moon. Its goal was to acquire contiguous photographic coverage of the lunar surface of at least 80% of the near side at 164-to-328 feet resolution. The spacecraft crashed onto the Moon on 6 Oct 1967 (55-years ago this year) due to gravitational anomalies.

6 May 2022: **National Space Day.** We celebrate National Space Day on the first Friday in May, or on May 6 this year. It was created to inspire all of us in the pursuit of knowledge and progress. There’s so much going on in the universe, it definitely deserves a day to reflect on everything! Though it’s unlikely you’ll be able to celebrate in outer space, you can still take part in your own corner of the universe with our gravity-defying facts, figures, and ideas for getting involved this National Space Day.

<https://nationaltoday.com/national-space-day/>

- 6 – 7 May 2022: **Eta Aquarids Meteor Shower.** The Eta Aquarids is an above average shower, capable of producing up to 60 meteors per hour at its peak. Most of the activity is seen in the Southern Hemisphere. In the Northern Hemisphere, the rate can reach about 30 meteors per hour. It is produced by dust particles left behind by comet Halley, which has been observed since ancient times. The shower runs annually from April 19 to May 28. It peaks this year on the night of May 6 and the morning of the May 7. The waxing crescent moon will set early in the evening, leaving dark skies for what should be an excellent show. Best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Aquarius, but can appear anywhere in the sky.
- 7 May 1992 (30-years) Maiden flight of the Space Shuttle Endeavour, STS 49 mission, launched from Complex 39, Pad B. Crew: Daniel C. Brandenstein, Kevin P. Chilton, Richard J. Hieb, Bruce E. Melnick, Pierre J. Thuot, Kathryn C. Thornton, and Thomas D. Akers. Rendezvoused, repaired, and reboosted Intelsat VI communications satellite. Among the firsts on this mission were: First EVA involving three astronauts and first use of a drag chute during a shuttle landing. Landed May 16, 4:57 p.m., EDT, Edwards Air Force Base (EAFB), CA. Mission Duration 8 days, 21 hours, and 17 minutes.
- 8 May 1962 (60-years) First Atlas-Centaur launch attempt, vehicle blew up at T+55 seconds. Structural failure of second stage caused explosion, debris fell into Atlantic Ocean, launch was from Complex 36, Pad-A.
- 15 May 1997 (25-years) STS-84 (Space Shuttle Atlantis) launched 4:07 a.m. EST, KSC. Crew: Charles J. Precourt, Eileen M. Collins, C. Michael Foale, Carlos I. Noriega, Edward T. Lu, Jean-Francois Clervoy (France), and Elena V. Kondakova (Russia). 6th Shuttle/Mir docking mission. Landed May 24, 9:27 a.m., EDT at KSC. Mission Duration: 9 days, 5 hours, and 20 minutes.

- 16 May 1952 (70-years) The International Geophysical Year (IGY) was created. Following a suggestion by National Academy of Sciences (NAS) member Lloyd Berkner, the International Council of Scientific Unions (ICSU) in 1952 proposed a comprehensive series of global geophysical activities to span the period July 1957-December 1958. The International Geophysical Year (IGY), as it was called, was timed to coincide with the high point of the eleven-year cycle of sunspot activity. In March of 1953, the NAS appointed a US National Committee to oversee US participation in the IGY. The US program included investigations of aurora and airglow, cosmic rays, geomagnetism, glaciology, gravity, the ionosphere, determinations of longitude and latitude, meteorology, oceanography, seismology, solar activity, and the upper atmosphere. In connection with upper atmosphere research, the US undertook to develop an orbiting satellite program. It was from the IGY rocket and satellite research that the US developed its space program.
- 16 May 2022: **Full Moon.** The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 04:15 UTC. This full moon was known by early Native American tribes as the Flower Moon because this was the time of year when spring flowers appeared in abundance. This moon has also been known as the Corn Planting Moon and the Milk Moon.
- 16 May 2022: **Total Lunar Eclipse.** A total lunar eclipse occurs when the Moon passes completely through the Earth's dark shadow, or umbra. During this type of eclipse, the Moon will gradually get darker and then take on a rusty or blood red color. The eclipse will be visible throughout all of North America, Greenland, the Atlantic Ocean, and parts of western Europe and western Africa.
- 18 May 2022: **International Museum Day.** Popularly known as IMD, International Museum Day is observed every year on 18th May. The holiday is coordinated by the International Council of Museums (ICOM) with the aim of educating the public about museums and the challenges they face. Every year, the council comes up with a specific International Museum Day theme and all activities revolve around the particular topic. International Museum Day was created in 1977. The International Council of Museums created this day to give museum professionals a chance to meet the public and make them aware of their everyday challenges. The IMD main goal is to raise awareness on the significant part that museums play in the improvement of society internationally.

- 20 May 2002 (20-years) The 45th Space Wing Commander signed the Memorandum of Agreement between the Wing and the Cape Canaveral Lighthouse Foundation. The Cape Canaveral Lighthouse Foundation Inc. was established on 20 May 2002 for the purpose of assisting the then 45th Space Wing---today the United States Space Force---in preserving, protecting, and interpreting the lighthouse and its historical significance to the Florida Space Coast.
- 21 - 22 May 1927 (95-years) Charles A. Lindbergh made the first solo nonstop flight across the Atlantic Ocean. Lucky Lindy's single-seat, single engine Ryan monoplane named the Spirit of St. Louis began the flight from Roosevelt Field, NY and landed at Le Bourget Air Field, outside of Paris, France. This singular event was a major factor in awakening the nation to the full potential of aviation. The flight lasted 33.5 hours and covered 3,600 miles.
- 21 – 22 May 2022: **Space Coast International Air Show** at Space Coast Regional Airport, Titusville, FL. <https://spacecoastairshow.com/>
- 22 May 1952 (70-years) Two monkeys and two mice were carried 36 miles aloft by an Aerobee sounding rocket---not high enough to be considered “in space”. The live cargo was recovered unharmed. White Sands Proving Grounds, New Mexico.
- 22 May 2012 (10-years) Dragon C2/C3 launched from Complex 40 at Cape Canaveral by a Falcon 9 rocket. The spacecraft was the first fully functional Dragon spacecraft on the Commercial Orbital Transportation Services (COTS) C2+ Demonstration Mission for NASA. It successfully docked with the ISS and was recovered. This was also the first time a Falcon 9 was launched at night.
- 23 May 1962 (60 years) Submarine USS Thomas A. Edison (SSBN 610) launched its first SLBM (Polaris, A2PE-5) off the coast of Cape Canaveral.
- 23 – 25 May 2022: **Space Tech Expo**, *Long Beach, California*
<http://www.spacetechempo.com>
- 24 May 1962 (60-years) Mercury Atlas-7, Aurora 7, with Astronaut Scott Carpenter, second American to orbit the Earth, launch was from Complex 14.

- 24 May 1972 (50-years) U.S. President Richard M. Nixon and USSR Premier Aleksey N. Kosygin signed an agreement for cooperation in the exploration of outer space for peaceful purposes and included the docking in space of US/USSR spacecraft in 1975. Moscow, USSR.
- 24 – 26 May 2022: **Global Aerospace Summit**, Abu Dhabi, UAE
<https://www.aerospacesummit.com>
- 25 May 2007 (15-years) Brigadier General Susan J. Helms accepted SpaceX as a new Eastern Range launch customer.
- 27 May 1977 (45-years) President Jimmy Carter lands at Skid Strip, travels to Port Canaveral for a tour of a nuclear submarine.
- 27 – 29 May 2022: International Space Development Conference (ISDC) Hyatt Regency Crystal City, Arlington, Virginia, USA <https://isdc2022.nss.org>
- May 28-29, 2022: Hyundai Air & Sea Show 2022 South Beach, Miami Beach.
<https://www.usasalute.com/>
- 29 May 1947 (75-years) In what may be the sole example of the U.S. firing a missile at Mexico in peacetime, happened when a modified V-2 was launched from the White Sands Proving Grounds, New Mexico, and flew in the wrong direction! It landed 1.5 miles south of Juarez, Mexico. This was one of the reasons for finding a new location (Cape Canaveral) for launching missiles!
- 29 May 1997 (25-years) Spaceport Florida Authority opened Complex 46 to launch small space launch vehicles and their payloads. Lockheed Martin Astronautics launched the first space vehicle, an Athena II, from the complex 8-months later.
- 30 May 1997 (25-years) Submarine USS Wyoming (SSBN 742) launched its first Trident II missile from off the coast of Cape Canaveral.
- 31 May 1957 (65-years) An Army Jupiter IRBM was fired 1,500 miles, limit of its designed range, and to an altitude of 250-300 miles, the first successful launching of an IRBM. The missile was fired from Complex 5 at Cape Canaveral to test the range capability and performance of rocket engine and control system. Although the missile was 253 nm short of its estimated 1,400 nm impact point, this was the first successful flight of the Jupiter. All phases of the test were successful during this first firing of the IRBM in the western world.

JUNE 2022

- 5 June 2002 (20-years) STS-111 (Space Shuttle Endeavour) launched 5:23 p.m. EDT, KSC. Crew: Paul S.Lockhart, Kenneth D. Cockrell, Franklin Chang-Diaz, Peggy Whitson, with cosmonauts Valery G. Korzun and Sergei Y.Treschev and French astronaut Philippe Perrin. International Space Station flight UF-2. The crew delivered more payload and experiment racks to the Destiny Laboratory. The Mobile Base System was also installed completing the Station's Mobile Servicing System, which includes the Canadarm2 and the Mobile Transporter. Delivered the Expedition Five crew and returned the Expedition Four crew. Landed June 19, 1:58 p.m. EDT at EAFB. Mission Duration: 13 days, 20 hours, 35 minutes.
- 7 June 2002 (20-years) Brigadier General J. Gregory Pavlovich succeeded Brigadier General Donald P. Pettit as commander of the 45th Space Wing.
- 8 June 1967 (55-years) Firing range for testing the Army's Dragon missile, an anti-tank weapon, was completed at Cape Kennedy AFS. The test range covered an area about 5,000 feet long and 1,000 feet wide. Although not considered a true launch complex, the test range contained a blockhouse, flat firing pads, impact areas, cameras sites, and associated facilities, all known as Complex 44. The flight tests were conducted on 16 June 1967.
- 8 June 2007 (15-years) In preparation for his retirement from the USAF, Colonel Thomas J. Bouthiller stepped down as Vice Commander. His successor, Colonel Stephen D. Butler, became the new Vice Commander for the 45th Space Wing on 11 June 2007 (15-years ago).
- 9 June 2007 (15-years) Boeing delivered the Delta IV Static Fire Unit (SFU) to the Air Force Space and Missile Museum for display.
- 10 June 1992 (30-years) First Atlas IIA-Centaur launch, Pad 36B, INTELSAT-K satellite.
- 11 June 1957 (65-years) First Atlas ICBM launch. Range Safety destruct signal sent at T+50 seconds, Complex 14.
- 12 June 1997 (25-years) A ground breaking ceremony for Patrick's new air traffic control tower held. The contract to build the tower was awarded to RKT Constructors, Inc., for \$2,538,000.
- 13 June 1942 (80-years) The first attempted launch of an A-4 (V-2) took place at Peenemunde. The rocket rose about .8 miles then crashed.

- 13 June 1967 (55-years) Launch Complexes 11, 15, and 20 were sold for salvage.
- 14 June 1967 (55-years) Mariner 5 (Venus flyby) was launched by Atlas Agena-D from Complex 12 at Cape Canaveral. Originally built as a backup to the Mariner 4 spacecraft, which successfully journeyed to Mars in 1965, Mariner 5 was modified to fly by Venus and collect data on the planet's atmosphere, radiation and magnetic field. The spacecraft's flight path following its Venus encounter brought it closer to the sun than any previous mission.
- 14 June 2022: **Full Moon, Supermoon.** The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 11:52 UTC. This full moon was known by early Native American tribes as the Strawberry Moon because it signaled the time of year to gather ripening fruit. It also coincides with the peak of the strawberry harvesting season. This moon has also been known as the Rose Moon and the Honey Moon. This is also the first of three supermoons for 2022. The Moon will be near its closest approach to the Earth and may look slightly larger and brighter than usual.
- 15 Jun 2007 (15-years) An ATLAS V/CENTAUR carrying the National Reconnaissance Office's NROL-30 classified payload was launched from Complex 41.
- 15 – 16 June 2022: **Milsatcoms**, IET, Savoy Place, London, UK.
<https://milsatcoms.theiet.org>
- 16 June 1967 (55 years) First Dragon anti-tank missile launch at the Cape. Launch was conducted at Complex 44. See entry for 8 June 1967.
- 16 June 1977 (45-years) **Dr. Wernher von Braun** dies in Alexandria, VA. He was born 23 March 1912 (110-years ago this year).
- 16 June 2007 (15-years) Engineers successfully detonated explosive charges to topple the mobile service towers on pads 36A and 36B. Following the demolition, MARCOR, Inc. was responsible for resizing and recycling or scrapping approximately 3,600 tons of metal and debris.
- 18 June 1952 (70-years) H. Julian Allen, NACA-Ames scientist, conceived the blunt nose concept for reentry vehicles, which was later used in ICBM's and Mercury, Gemini, and Apollo spacecraft.
- 18 June 1977 (45years) First manned captive flight of the Space Shuttle Enterprise, see also 18 February and 12 August 1977.

- 20 June 1947 (75 years) The Joint Research and Development Board's Committee made its report approving the idea of a Joint Long Range Proving Ground and recommended that the launching area be located at Cape Canaveral, Florida. The testing range was to extend southeastward over the Atlantic Ocean with observation stations in the Bahama Islands. As suitable locations for the range, the Committee selected as its first choice an area extending from El Centro, California, along the Gulf of Lower California; as its second choice a Banana River-Bahama Island range with launch area located on Cape Canaveral, Florida.
- 20 June 1957 (65-years) Launching of first operational prototype N-69E model Snark opened Phase IV testing, missile crashed.
- 20 June 1962 (60-years) A letter from the Florida Development Commission, Tallahassee, Florida, dated 20 June 1962 to Office of Information, Air Force Missile Test Center, Patrick Air Force Base: "The Air Force Missile Test Center, and the entire Cape Canaveral area has become the largest tourist attraction in Florida, and with subsequent developments in missile launchings, it will no doubt become even more attractive."
- 21 June 2022: **June Solstice.** The June solstice occurs at 09:05 UTC. The North Pole of the earth will be tilted toward the Sun, which will have reached its northernmost position in the sky and will be directly over the Tropic of Cancer at 23.44 degrees north latitude. This is the first day of summer (Summer solstice) in the Northern Hemisphere and the first day of winter (Winter solstice) in the Southern Hemisphere.
- 22 June 1947 (75 years) Control of the Banana River Naval Air Station was transferred to the United States Air Force. Which made it the headquarters for the Long Range Missile Testing program.
- 23 June 1992 (30-years) General Morrell informed the Air Force Space & Missile Museum Foundation that operational requirements of the Cape Canaveral Air Force Station continue to grow and for that reason he must **disapprove** planned use of the Solar Energy Center as an alternative museum visitors center. The Air Force Space and Missile History Center would eventually open at one of the former Solar Energy Center buildings on 13 August 2000.
- 24 June 1952 (70 years) The first live missile test to utilize the newly developed Thompson missile launcher was successfully performed utilizing a Lark missile.

A Compendium of Aerospace Anniversaries and Events by
Roger McCormick, Air Force Space and Missile Museum

- 25 June 1992 (30-years) STS-50 (Space Shuttle Columbia) launched, 12:12 p.m., EDT, KSC. Crew: Richard N. Richards, Kenneth D. Bowersox, Bonnie J. Dunbar, Ellen S. Baker, Carl J. Meade, Lawrence J. DeLucas, and Eugene H. Trinh. U.S. Microgravity Laboratory-I carried in the shuttle cargo bay. Landed July 9 at 7:43 a.m., EDT, KSC. Mission Duration 13 days, 19 hours, and 30 minutes.
- 27 June 1957 (65-years) First live missile launching under the Bull Goose program, launch occurred from Complex 22.
- 27 June 1982 (40-years) STS-4 (Space Shuttle Columbia) launched, 11:00 a.m., EDT from KSC. Crew: Thomas K. "Ken" Mattingly and Henry W. "Hank" Hartsfield. Final Space Transportation System research and development flight. Landed July 4, 12:09 p.m., EDT, Edwards Air Force Base (EAFB), CA. Mission Duration 7 days, 1 hour, 9 minutes.
- 29 June 1962 (60-years) The Air Force Missile Test Center (AFMTC) airline, the Missilair, made its last run, ending 11 years of successful operations. AFMTC C-47s and C-54 aircraft had serviced approximately 180,000 passenger round trips and carried 62 million pounds of priority cargo downrange while maintaining a 100 percent safety record. See 22 Aug 1952 (70-years ago this year) for info about the first flight.
- 30 June 1987 (35-years) NASA submitted to President Reagan a report on the agency's implementation of the recommendations of the Presidential Commission on the Space Shuttle Challenger Accident. The report describes the ongoing Shuttle recovery effort -- relative to the nine recommendations made by the commission -- as well as other return-to flight activities.
- 30 Jun 1987 (35-years) The range station on Grand Bahama Island was placed in caretaker status. The keys to the station were turned over to the Government of the Bahamas on 30 January 1988.

30 June 2022: **International Asteroid Day**. On June 30, International Asteroid Day will have everyone looking toward the skies. The holiday was founded after the 2014 release of the film 51 Degrees North, which explores what would happen if an asteroid were to strike London. The film's creative team (many of whom are scientists) wanted to raise more awareness about the threat of asteroids to earth, and how we can help protect ourselves. To make that happen, they formed a foundation, and in 2015, they celebrated the world's first International Asteroid Day. There are over one million asteroids in space that could potentially strike the earth, but modern scientists have only discovered about one percent of them. To combat this, Asteroid Day's founders, as well as a host of accomplished scientists, created the 100X Asteroid Declaration. The declaration aims for scientists to work to increase the rate of asteroid discovery to 100,000 per year within a decade. International Asteroid Day focuses on spreading the word of the declaration and helping fellow Earthlings prepare for a potential asteroid impact.
<https://nationaltoday.com/international-asteroid-day/>

JULY 2022

- July 1992 (30-years) Johnson Controls (formerly Pan American) won the LBS contract for Cape Canaveral for the second time.
- 1 July 1957 (65-years) The beginning of the International Geophysical Year (IGY).
- 1 July 1962 (60-years) NASA officially opened the Launch Operations Center at Cape Canaveral, later to be named the Kennedy Space Center.
- 1 July 1972 (50-years) Dr. Wernher von Braun retires from NASA.
- 1 July 1998 (25-years) STS-94 (Space Shuttle Columbia) launched 2:02 p.m. EDT, KSC. Crew: James D. Halsell, Susan L. Still, Janice E. Voss, Donald A. Thomas, Michael L. Gernhardt, Roger K. Crouch, and Gregory T. Linteris. A reflight of the STS-83 Microgravity Science Laboratory (MSL) mission. MSL was originally launched on April 4, 1997. The mission was cut short due to a problem with Fuel Cell #2. Landed July 17, 1997, 6:47 a.m. EDT, KSC. Mission duration: 15 days, 16 hours, 45 minutes.
- 1 July 2002 (20-years) Colonel Stephen J. Werner succeeded Colonel Michael F. Lehnertz as 45th Support Group Commander. Colonel Lehnertz succeeded Colonel Sameul R. Dick as 45th Space Wing Vice Commander.
- 2 July 2022: **International UFO Day**. World UFO Day is observed and celebrated on July 2nd every year to raise awareness about Unidentified Flying Objects (UFOs) and alien life forms. The day aims to discuss and educate people about UFOs, flying saucers, and sightings of bright blue light in the sky that make headlines across the world. It was founded by the UFO hunter Haktan Akdogan. The first World UFO Day was celebrated in 2001 and spread awareness among people to gaze at the heavens scanning for unidentified flying objects. What's the best way to celebrate? The World UFO Day website suggests "watching UFO movies, talking with your friends about the possibility of UFOs or alien life."
<https://nationalday.in/world-ufo-day/>
- 3 July 2002 (20-years) CONTOUR (Comet Nucleus Tour) launched by a Delta 2 rocket from Complex 17A at Cape Canaveral. Six weeks later, on August 15, contact with the spacecraft was lost after a planned maneuver that was intended to propel it out of Earth orbit and into its comet-chasing solar orbit.

4 July 1982 (40-years) STS-4 landed at EAFB, CA., 12:09 pm., EDT. Crew: Thomas K. "Ken" Mattingly and Henry W. "Hank" Hartsfield. President Reagan attended the landing along with a half-million other tourists. In a speech he stated: "... beginning with the next flight Columbia and her sister ships will be fully operational ..."

4 July 1997 (25 years) Mars Pathfinder landed on Mars following its launch in December 1996. A small, 23-pound robotic rover, named Sojourner, departed the main lander and began to record weather patterns, atmospheric opacity, and the chemical composition of rocks washed down into the Ares Vallis flood plain, an ancient outflow channel in Mars' northern hemisphere. Mars Pathfinder was launched on 4 December 1996 from Complex 17 at the Cape aboard a Delta II booster. See also 27 September 1997.

8 July 1947: (75-years) The recommendations of the Committee on Long Range Proving Ground were approved by the Joint Research and Development Board. Responsibility for acquiring, building, and equipping the range was assigned to the War Department.

8 July 1962 (60-years) **Sgt. H. Smith** was fatally injured when he fell into an elevator shaft while performing maintenance on the Complex 11 gantry, he was assigned to the 6555th Aerospace Test Wing.

July 9-10, 2022: **Pensacola Beach Air Show 2022** Pensacola Beach

10 July 1962 (60-years) Telstar 1, the first privately financed space venture, was launched by a Delta-Thor. It was developed by the American Telephone and Telegraph Bell Laboratory (AT&T) which paid NASA \$3 million to launch and track it. Broadcasts were transmitted and received by the U.S., Great Britain, and France on 12 July 1962. The U.S. flag was the first picture flashed from Telstar, and thus the first television picture sent by a satellite. Telstar is also called the world's first commercial (privately built) communications satellite, launched from Complex 17, Pad-B.

12 July 1962 (60-years) Submarine USS John C. Marshall (SSBN 611) launched its first SLBM (Polaris A2PE-10) off the coast of Cape Canaveral.

13 July 1887 (135-years) Present day City of Titusville in Brevard County, Florida was incorporated as the City of Sand Point.

- 13 July 2022: **Full Moon, Supermoon.** The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 18:38 UTC. This full moon was known by early Native American tribes as the Buck Moon because the male buck deer would begin to grow their new antlers at this time of year. This moon has also been known as the Thunder Moon and the Hay Moon. This is also the second of three supermoons for 2022. The Moon will be near its closest approach to the Earth and may look slightly larger and brighter than usual.
- 14 July 1967 (55-years) Surveyor 4 launched by an Atlas Centaur toward the Moon. On 17 July 1967 contact was lost just 2.5-minutes before lunar touchdown, impacted in Sinus Medii. Launch occurred from Pad-A at Complex 36.
- 17 July 1962 (60-years) USAF Capt. Robert M. White earns astronaut wings when he reaches an altitude of nearly 60 miles in the rocket-powered X-15, the first winged craft flown to the lower edge of space.
- 18 – 22 July 2022: **Farnborough International Airshow**, Farnborough, UK
<https://www.farnboroughairshow.com>
- 19 July 1967 (55-years) Headquarters USAF approved a new emblem for the Air Force Eastern Test Range, replacing one which had been approved and in use since 16 March 1951 when the organization was the Air Force Long Range Proving Ground Division.
- 20 July 2007 (15-years) Johnson Space Center hosted the grand opening of a restored Saturn V rocket, 38 years to the day after humans first walked on the moon. The 30-story tall rocket, which rests at the JSC front gate, is part of the Smithsonian National Air and Space Museum collection and one of only three such rockets in existence.
- 20 July 2022: **National Moon Day.** National Moon Day is a holiday that celebrates the natural satellite that's been orbiting the Earth for the past 4.5 billion years. All throughout history, the moon has been Earth's constant companion and a source of wonder for mankind. This holiday is also a good excuse for everyone to learn a little bit more about the moon and its orbit around the planet. National Moon Day owes its existence to U.S President Richard Nixon. In 1971, he proclaimed July 20th to be observed as National Moon Day to commemorate the anniversary of man's first moon landing. Mankind walked on the moon for the first time on July 20, 1969, when Neil Armstrong and Buzz Aldrin stepped out of Apollo 11 and stepped onto the lunar surface. Since this holiday's conception, over a dozen U.S States have sponsored resolutions observing it as Moon Day.

- 22 July 1962 (60-years) Venus probe, Mariner 1, launched on an Atlas-Agena B. Human error omitted a hyphen in the computer tape for spacecraft guidance, causing flight trajectory deviation. Range Safety Officer (RSO) sent destruct signal at T+293 seconds, launch was from Complex 12.
- 22 July 1982 (40-years) First Pershing II launched from Complex 16, failed 14-seconds into its flight.
- 23 July 1972 (50-years) Launch of Landsat 1 (LS-1), formerly named ERTS-A and ERTS-1, was a modified version of the Nimbus 4 meteorological satellite. Launch occurred from Vandenberg Air Force Base in California. It was the first orbiting satellite to carry a Multispectral Scanner. The near-polar orbiting spacecraft served as a stabilized, Earth-oriented platform for obtaining information on agricultural and forestry resources, geology and mineral resources, hydrology and water resources, geography, cartography, environmental pollution, oceanography and marine resources, and meteorological phenomena.
- 23 July 2012 (10-years) **Astronaut Sally Ride**, first American woman to fly in space, dies at age 61.
- 26 July 1947 (75-years) National Security Act of 1947, signed by President Harry S. Truman, becomes law, authorizing the creation of the Air Force as a separate service, coequal with the Army and Navy, and creating a National Military Establishment under the Secretary of Defense. See 18 September 1947 (75-years) for when the Air Force was actually created.
- 27 July 1997 (25-years) A DELTA II carrying the NAVSTAR GPS IIR-2 replenishment satellite was launched from Pad 17A. Due to the launch mishap on 17 January 1997, this satellite was actually the first new IIR replenishment satellite to be added to the NAVSTAR Global Positioning System.
- 28 -29 July 2022: **Delta Aquarids Meteor Shower**. The Delta Aquarids is an average shower that can produce up to 20 meteors per hour at its peak. It is produced by debris left behind by comets Marsden and Kracht. The shower runs annually from July 12 to August 23. It peaks this year on the night of July 28 and morning of July 29. This is a great year for this shower because the new moon means dark skies for what should be an excellent. Best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Aquarius, but can appear anywhere in the sky.

A Compendium of Aerospace Anniversaries and Events by
Roger McCormick, Air Force Space and Missile Museum

- 29 July 1992 (30-years) Submarine USS Maryland (SSBN 738) launched its first Trident II missile from off the coast of Cape Canaveral.
- 31 July 1967 (55-years) Submarine USS Will Rogers (SSBN 659) launched its first SLBM (Polaris A3P-529) from off the coast of Cape Canaveral.
- 31 July 1972 (50-years) **Darrell Ramsey** died when he fell 52 feet and landed on the second floor level of the Complex 34. Mr. Ramsey worked for a Columbia, South Carolina company that was dismantling Pads 34 and 37.
- 31 July 1992 (30-years) STS-46 (Space Shuttle Atlantis) launched 9:56 a.m., EDT, KSC. Crew: Loren J. Shriver, Andrew M. Allen, Claude Nicollier (ESA-Switzerland), Marsha S. Ivins, Jeffrey A. Hoffman and Franklin R. Chang-Diaz and Franco Malerba (Italy). Deployment of ESA's European Retrievable Carrier (EURECA) and the joint NASA/Italian Space Agency Tethered Satellite System (TSS). Landed 9:12 a.m., EDT, Aug. 8, KSC. Mission Duration: 7 days, 23 hours, 15 minutes.

AUGUST 2022

- 1 Aug 1947 (75-years) The Banana River Naval Air Station was inactivated by the Navy and placed in caretaker status.
- 1 Aug 1967 (55-years) Lunar Orbiter 5 launched by Atlas Agena-D, from Complex 13 at Cape Canaveral. Lunar Orbiter 5 was the last in a series of highly successful missions to map the Moon for potential landing sites and to conduct general observational surveys. Lunar Orbiter 5 was commanded to impact on the lunar surface Jan. 31, 1968, which it did at 0 degrees north latitude and 70 degrees west longitude. In total, the five lunar orbiters photographed 99% of the lunar surface. Perhaps the most important finding credited to data from the orbiters, and Lunar Orbiter 5 in particular, was the discovery of “mascons” or lunar mass concentrations under the lunar ringed maria, first published by P. M. Muller and W. L. Sjogren, researchers at NASA's Jet Propulsion Laboratory, in mid-1968.
- 1 Aug 1997 (25-years) C & D Construction completed a \$277,000 contract to construct a memorial plaza between buildings 423 and 425 on Patrick AFB. Patrick’s Memorial Plaza was dedicated in an official ceremony on 18 September 1997 (25-years).
- 3 Aug 1992 (30-years) The 3rd Space Launch Squadron was activated.
- 4 Aug 2007 (15-years) Phoenix Mars Lander was launched by a Delta 2 rocket from Complex 17A, Cape Canaveral at 5:36 EDT, carrying science instruments to analyze soil samples of the Martian northern polar region. It will dig into an icy layer just below the surface to determine if the subsurface environment in the far northern plains of Mars has ever been favorable for sustaining microbial life. It will also monitor the polar weather. Phoenix landed successfully on Mars at 7:53 p.m. EDT on Sunday, May 25, 2008.
- 5 Aug 2012 (10-years) The Mars Science Laboratory carrying the Curiosity rover touched down on Mars at Gale Crater. Spacecraft was launched aboard an Atlas V booster from Complex 41 at the Cape on 26 November 2011.
- 7 Aug 1962 (60-years) First Polaris A3 launch, Complex 29.

- 7 Aug 1997 (25-years) STS-85 (Space Shuttle Discovery) launched 10:41 a.m. EDT, KSC. Crew: Curtis L. Brown, Jr., Kent V. Rominger, N. Jan Davis, Robert L. Curbeam, Jr., Stephen K. Robinson, and Bjarni Y. Tryggvason of the Canadian Space Agency (CSA). Deployment of the Cryogenic Infrared Spectrometers and Telescopes for the Atmosphere-Shuttle Pallet Satellite-2 (CRISTA-SPAS-2). Landed at KSC on August 19, 1997, 7:07 a.m., EDT. Mission Duration: 11 days, 20 hours, 28 minutes.
- 7 Aug 2022: **National Lighthouse Day.** On National Lighthouse Day, we celebrate how these scenic, historic structures comforted travelers throughout the centuries. In 1789, the U.S. Congress passed an act securing the protection of all lighthouses under federal support.
- 8 Aug 1957 (65-years) First recovery of a long-range nosecone was accomplished by the Navy within 3-hours after launch of a Jupiter-C missile. Nosecone carried a letter to Maj. Gen. John B. Medaris, U.S. Army, from Kurt Debus. Nosecone would appear on TV with President Eisenhower on 7 Nov 1957 (65-years). Launch occurred from Complex 6.
- 8 Aug 2002 (20-years) STS-118 (Space Shuttle Endeavour) launched 6:36 p.m. EDT, KSC. Crew: Scott J. Kelly, Charles O. Hobaugh, Richard A. Mastracchio, Dafydd (Dave) Williams (Canada), Barbara R. Morgan, Tracy E. Caldwell, and Benjamin Alvin Drew. It continued ISS construction by delivering a third starboard truss segment. Also, replaced a defective gyroscope, and installed an external equipment storage platform. Landed at KSC on August 21, 12:33 p.m., EDT. Mission Duration: 12 days, 17 hours, 55 minutes.
- 11 – 15 Aug 1952 (70 years) Briefings were held at Patrick AFB for various companies interested in bidding for the contract operation of the AFMTC Florida Missile Test Range.
- 11 – 12 Aug 1962 (60-years) Vostok 3 and Vostok 4 (Andrian G. Nikolayev and Pavel R. Popovich) launched, 0824 UTC and 0755 UTC, both aboard Vostok rockets from Baikonur. First simultaneous flight of two spacecraft.
- 12 Aug 1977 (45-years) Space Shuttle Enterprise makes first free flight from Boeing 747 aircraft, first glide test.

- 12 Aug 2022: **Full Moon, Supermoon.** The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 01:36 UTC. This full moon was known by early Native American tribes as the Sturgeon Moon because the large sturgeon fish of the Great Lakes and other major lakes were more easily caught at this time of year. This moon has also been known as the Green Corn Moon and the Grain Moon. This is also the last of three supermoons for 2022. The Moon will be near its closest approach to the Earth and may look slightly larger and brighter than usual.
- 12 – 13 Aug 2022: **Perseids Meteor Shower.** The Perseids is one of the best meteor showers to observe, producing up to 60 meteors per hour at its peak. It is produced by comet Swift-Tuttle, which was discovered in 1862. The Perseids are famous for producing a large number of bright meteors. The shower runs annually from July 17 to August 24. It peaks this year on the night of August 12 and the morning of August 13. Unfortunately, the nearly full moon this year will block out all but the brightest meteors. But the Perseids are so bright and numerous that it could still be a decent show. Best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Perseus, but can appear anywhere in the sky.
- 13 Aug 2022: **Annual Space Collectible Show and Sale** to be held at the Sands Space History Center, just outside the gate (Gate 1) of Cape Canaveral Space Force Station.
- 13 Aug 1962 (60-years) First Atlas-F launched by an all-Air Force crew, Complex 11, it flew 5000-miles down range. This was not the first launch of an Atlas-F, but was the first by an all-Air Force launch crew.
- 14 Aug 1912 (110-years) Sgt. Vernon Burge receives rating as Army's first enlisted pilot.
- 14 Aug 1947 (75-years) The War Department delegated limited responsibility for implementing the long-range proving ground to the Army Air Forces, as follows: (1) to arrange diplomatic conversations concerning the feasibility of acquiring the ranges recommended by the Committee on Long-Range Proving Ground, in the specified order of preference;(2) if neither range was obtainable, to recommend additional sites; and (3) to determine the minimum necessary facilities for firing guided missiles over ranges greater than 150 miles.

- 14 Aug 2022: **Saturn at Opposition.** The ringed planet will be at its closest approach to Earth and its face will be fully illuminated by the Sun. It will be brighter than any other time of the year and will be visible all night long. This is the best time to view and photograph Saturn and its moons. A medium-sized or larger telescope will allow you to see Saturn's rings and a few of its brightest moons.
- 15 Aug 2022: **Chant at the Moon Day,** Ah, summer, where the days are long and the nights are longer. Join thousands of people around the country to chant (or even, howl) into the heavens as part of Chant at the Moon Day. This annual event was inspired by the Wenatchee, Washington-based fruit grower, Stemilt's. According to local legend, harvesting Stemilt's cherries prior to a full moon makes them sweeter. The moon's gravitational pull enhances the tree roots where the cherries are grown. Stemilt decided all this sweetness deserved a celebration—so gather your friends together and let loose your best lunar cheer!
- 17 Aug 1987 (35-years) "Leadership and America's Future in Space" known as the Ride Report was released. Former shuttle astronaut and first U.S. woman in space, Sally K. Ride headed a group at NASA Headquarters that finished an assessment of NASA's options beyond the space station. The report recommended major programs to study earth sciences with powerful orbiting sensors and exploration of the solar system with new generations of robot probes. Ride also urged the space agency to establish a permanently manned lunar base before sending astronauts to Mars.
- 18 Aug 2017 (5-years) Tracking and Data Relay Satellite-M (TDRS-M), which is the third and final in a series of next generation communications satellites. TDRS-M was launched at Complex 41 from the Cape Canaveral Air Force Station on a United Launch Alliance (ULA) Atlas V rocket. Renamed TDRS 13 once in orbit.
- 20 Aug 1977 (45-years) Voyager 2 launch, Complex 41, by a Titan IIIE-Centaur booster. Sent to study the outer planets. If left alone, it will pass the star Sirius, the brightest star in our night sky in about 296,000 years. As of early 2017, Voyager 2 is just over 10.5 billion miles from the Earth.

A Compendium of Aerospace Anniversaries and Events by
Roger McCormick, Air Force Space and Missile Museum

- 21 Aug 1972 (50-years) Orbiting Astronomical Observatory (OAO) - 3 named Copernicus, launched by an Atlas Centaur from Complex 36 at Cape Canaveral. (OAO-3) was equipped with a reflecting telescope with a 32-inch mirror and was primarily used to study ultraviolet emissions from interstellar gas and stars in the far reaches of the Milky Way. Copernicus also carried four X-ray detectors that discovered several pulsars. Copernicus continued observing until February 1981.,
- 21 Aug 2002 (20-years) Inaugural flight of Lockheed Martin Atlas V Evolved Expendable Launch Vehicle, Complex 41, Cape Canaveral. The Hot Bird 6 communications spacecraft was the payload.
- 22 Aug 1952 (70-years) A test run was made by the Missilair Line, scheduled to carry passengers and cargo between PAFB and the downrange stations using 47 and C-54 aircraft assigned to the 6550th Air Base Wing----see 29 June 1962 (55-years) for the last flight.
- 23 Aug 2007 (15-years) The Defense Department awarded Computer Sciences Raytheon (CSR) the Eastern Range Technical Services (ERTS) contract at Patrick AFB, Florida. It was the latest in a series of instrumentation contracts won by CSR, and it was worth almost \$68 million for its first 10 months of operation.
- 25 Aug 2012 (10-years) **Astronaut Neil Armstrong**, first man to walk on the Moon, dies at age 82.
- 27 Aug 1962 (60-years) Mariner 2 launched by an Atlas Agena, from Complex 12, first successful planetary flyby when the craft passed the planet Venus on 14 Dec 1962 (60-years), spacecraft subsequently entered orbit around the Sun.
- 28 Aug 2002 (20-years) The 45th Space Wing, NASA, and the Florida Spaceport Authority (SFA) endorsed the Cape Canaveral Spaceport Master Plan (CCSMP) at a signing ceremony at Port Canaveral.
- 29 Aug 1952 (70-years) Snark Dynamic Dummy No. 2 was launched at Cape Canaveral. This was the initial launching under the Snark program at the Florida Missile Test Range, from the Complex 1 and 2 area. Frist launch of a Snark dynamic dummy missile. See 26 November 1952 for first N-25 model Snark.

A Compendium of Aerospace Anniversaries and Events by
Roger McCormick, Air Force Space and Missile Museum

- 30 Aug 1997 (25-years) C & D Construction completed a \$274,777 project to expand Patrick's satellite pharmacy. The work included the installation of three drive-through lanes to allow motorized pick-up of prescriptions.
- 30 Aug 2012 (10-years) Radiation Belt Storm Probes (RBSP), the first twin-spacecraft mission designed to explore Earth's Van Allen radiation belts, launched aboard an Atlas V 401 booster from Cape Canaveral Complex 41.

SEPTEMBER 2022

- 1 Sep 1962 (60-years) Port Canaveral post office name changed to Cape Canaveral. A post office in the area was built and listed in the U.S. Post Office application as "Artesia" and retained this name from 1893 to 1954. It was "Port Canaveral" from 1954 to 1962, and then the City of Cape Canaveral from 1962 to 1963, when a larger post office was built.
- 1 Sep 1982 (40-years) Air Force Space Command activated to consolidate operational Space activities (see 19 April 2002).
- 1 Sep 1992 (30-years) The 45th Mess Squadron, AAFTTC, was reconstituted and redesignated the 45th Morale, Welfare, Recreation and Services Squadron.
- 5 Sep 1947 (75 years) The Department of Air Force activated a Staff group headed by Brigadier General William L. Richardson in the office of Deputy Chief of Staff for Operations to pursue the project of Joint Long Range Proving Ground. This group was designated the National Guided Missile Range Group and was composed of the original members, or their designated replacements, of the Joint Research and Development Board's Committee on Long Range Proving Ground. The Group worked simultaneously on the following phases of the project: (1) diplomatic negotiations for firing rights and instrumentation stations in foreign territories; (2) preparation of enabling legislation and FY-49 budgetary legislation and (3) a study of the minimum required facilities.
- 5 Sep 1977 (45-years) Voyager 1 launched, Complex 41, aboard a Titan IIIE Centaur sent to explore some of the outer planets. Is now the farthest man-made object from Earth at more than 12.8 billion miles away as of early 2017.
- 6 Sep 1947 (75-years) A V-2 missile is fired from the deck of the U.S.S. Midway near Bermuda.
- 7 Sep 1967 (55-years) Biosatellite II launched on a Thor-Delta from Complex 17B, carried plant and animal experiments into Earth orbit on a two-day mission. Recovery was made by mid-air snatch on 9 Dec 1967.
- 7 Sep 2017 (5-years) OTV-5 launched from Complex 39A at Kennedy Space Center, by a Falcon 9 booster. This was an X-37B mission, the US Air Force "minishuttle" Orbital Test Vehicle.

A Compendium of Aerospace Anniversaries and Events by
Roger McCormick, Air Force Space and Missile Museum

- 8 Sep 1817 (205-years) Mills O. Burnham was born in Thetford, Vermont. He would later become the first permanent keeper of the Cape Canaveral Lighthouse. He died on 17 April 1886 at the age of 68 and is buried in the Burnham family cemetery at Cape Canaveral Space Force Station.
- 8 Sep 1967 (55-years) Surveyor 5 launched by an Atlas Centaur from Complex 36B at Cape Canaveral. Surveyor 5 was the fifth lunar lander of the American Surveyor program sent to explore the surface of the Moon. Surveyor 5 landed at Mare Tranquillities on 11 September 1967, last contact with the craft was on 17 December 1967. A total of 19,118 images were transmitted back to Earth.
- 9 Sep 1982 (40-years) Space Services launches Conestoga 1, Matagorda Island, Texas.
- 10 Sep 1952 (70-years) First Bomarc (a Bomarc-A model) missile launched on the Eastern Range. Missile impacted just 800 feet northwest of its launcher.
- 10 Sep 2022: **Full Moon.** The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 09:58 UTC. This full moon was known by early Native American tribes as the Corn Moon because the corn is harvested around this time of year. This moon is also known as the Harvest Moon. The Harvest Moon is the full moon that occurs closest to the September equinox each year.
- 11 Sep 1962 (60-years) President John F. Kennedy, Vice President Lyndon B. Johnson, and Secretary of Defense Robert McNamara land at Skid Strip, tour launch complexes and received briefings.
- 12 Sep 1962 (60-years) President John F. Kennedy gives another of his well-known "Moon speeches" at an address at Rice University in Texas; *"...we choose to go to the Moon..."*
- 12 Sep 1977 (45-years) The Cape supported the first Chevaline launch, Complex 29.
- 12 Sep 1992 (30-years) Vice President Dan Quayle lands at Skid Strip, viewed the launch of Space Shuttle mission STS-47.

- 12 Sep 1992 (30-years) STS-47 (Space Shuttle Endeavour) lifted off, 10:23 a.m., EDT, KSC. Crew: Robert L. "Hoot" Gibson, Curtis L. Brown, Jr., Mark C. Lee, Jerome "Jay" Apt, N. Jan Davis, and Mae C. Jemison. Payload specialist: Mamoru Mohri (Japan). Mae C. Jemison becomes first African American woman in space, and Mamoru Mohri first Japanese astronaut to fly on Space Shuttle. Mark C. Lee and N. Jan Davis first married couple in space together. Landed September 20, 8:53 a.m., EDT, KSC. Mission Duration: 7 days, 22 hours, 30 minutes.
- 14 Sep 1927 (95-years) Birth of Martin Caiden, a prolific author of fiction and nonfiction, he is most recognized for his 1964 novel, *Marooned*, and his novel *Cyborg*, for which was the basis for *The Six Million Dollar Man*, TV series. Over the course of his career, he wrote over fifty books and a thousand magazine articles. Caiden passed away on 24 March 1997, 25-years ago this year.
- 14 Sep 2007 (15-years) Kaguya, a Japanese (JAXA) lunar orbiter, also known by its pre-launch name SELENE (for SELEnological and ENgineering Explorer), was launched by a H-2A rocket from Tanegashima Island at 01:31 UTC. Kaguya entered lunar orbit on October 3 and subsequently deployed two subsatellites.
- 15 Sep 2017 (5-years) Cassini spacecraft plunged into the atmosphere of Saturn, ending its 13-year tour of the ringed planet. Cassini was launched from Cape Canaveral, Complex 40 utilizing a Titan IVB-Centaur booster.
- 16 Sep 1957 (63-years) First operation by Bomarc against a QF-80 drone target, miss-distance was only 12 feet. The QF-80 was a remote-controlled aircraft.
- 16 Sep 2020: **Neptune at Opposition.** The blue giant planet will be at its closest approach to Earth and its face will be fully illuminated by the Sun. It will be brighter than any other time of the year and will be visible all night long. This is the best time to view and photograph Neptune. Due to its extreme distance from Earth, it will only appear as a tiny blue dot in all but the most powerful telescopes.

- 17 Sep 1857 (170-years) Konstantin Tsiolkovsky, the father of cosmonautics, is born in the village of Izhevskoye, in Ryazan Province, Russia, one of eighteen children. The Soviet rocket scientist who pioneered astronautic theory, is well known for several famous quotes; “Earth is the cradle of humanity, but one cannot live in a cradle forever”, and “The blue distance, the mysterious Heavens, the example of birds and insects flying everywhere —are always beckoning Humanity to rise into the air.” Tsiolkovsky died in Kaluga on 19 September 1935.
- 18 Sep 1947 (75-years) Birth of the U.S. Air Force as an independent service. W. Stuart Symington becomes first Secretary of the Air Force as a result of the National Security Act of 1947. See 26 July 1947 (75-years ago this year) for when the National Security Act of 1947 became law to authorize the creation of the Air Force as a separate service.
- 18 Sep 1997 (25-years) The 45th Space Wing began its celebration of the Air Force’s 50th anniversary with a dedication ceremony at Patrick’s new Memorial Plaza, work on the plaza was completed on 1 August 1997 (25-years ago this year).
- 18 – 22 Sep 2022: **73rd International Astronautical Congress**, Paris, France. The IAC 2022 theme will be **Space for @ll** to reach beyond the space community and bringing together all communities to offer great opportunities for networking and forging new contacts and potential partnerships. <http://www.iafastro.org/events/iac/iac-2022/>
- 20 Sep 1957 (65-years) The first successful launch of a Thor IRBM from Cape Canaveral, Complex 17, Pad-B. First launch attempt was 25 Jan 1957 (60-years this year), same pad, but was not successful.
- 23 Sep 1962 (60-years) The Jetsons cartoon premieres on TV.
- 23 Sep 2022: **September Equinox**. The September equinox occurs at 00:55 UTC. The Sun will shine directly on the equator and there will be nearly equal amounts of day and night throughout the world. This is also the first day of fall (autumnal equinox) in the Northern Hemisphere and the first day of spring (vernal equinox) in the Southern Hemisphere.
- 25 Sep 1992 (30-years) Mars Observer launched on Titan III, 1:05 pm., EDT, Cape Canaveral, Fla. Spacecraft fell silent Aug. 21, 1993, three days before it would have entered Mars orbit.

- 25 Sep 1997 (25-years) STS-86 (Space Shuttle Atlantis) launched from KSC at 10:34 p.m. EDT. Crew: James D. Wetherbee, Michael J. Bloomfield, Vladimir G. Titov (Russia), Scott E. Parazynski, Jean-Loup J.M. Chrétien (France), Wendy B. Lawrence, and David A. Wolf. Docked with Mir and exchanged David Wolf for Michael Foale who returned with the rest of the crew. Landed at KSC, October 6 at 5:55 p.m., EDT. Mission Duration: 10 days, 19 hours, 20 minutes.
- 26 Sep 1947 (75-years) Gen. Carl Spaatz becomes first Chief of Staff of the Air Force.
- 26 Sep 2022: **Jupiter at Opposition.** The giant planet will be at its closest approach to Earth and its face will be fully illuminated by the Sun. It will be brighter than any other time of the year and will be visible all night long. This is the best time to view and photograph Jupiter and its moons. A medium-sized telescope should be able to show you some of the details in Jupiter's cloud bands. A good pair of binoculars should allow you to see Jupiter's four largest moons, appearing as bright dots on either side of the planet.
- 27 Sep 1997 (25-years) End of the Mars Pathfinder mission. From landing until the final data transmission on 27 September 1997, Mars Pathfinder returned 2.3 billion bits of information, including more than 16,500 images from the lander and 550 images from the rover, as well as more than 15 chemical analyses of rocks and soil and extensive data on winds and other weather factors. Findings from the investigations carried out by scientific instruments on both the lander and the rover suggest that Mars was at one time in its past warm and wet. See also 4 July 1997.
- 27 Sep 2007 (15-years) Dawn was launched by a Delta 2 rocket from Complex 17 at Cape Canaveral. The spacecraft was sent to visit two nearby asteroids; Vesta and Ceres, and transmit multi-color images of them. Dawn arrived at Vesta on 16 July 2011 and at Ceres on 6 May 2015.
- 27 Sep 2022: **World Tourism Day.** Many people around the world celebrate the United Nation's UN) World Tourism Day, which is on September 27 every year. The day aims to foster awareness among the international community of the importance of tourism and its social, cultural, political and economic values. <https://nationaltoday.com/world-tourism-day/>

OCTOBER 2022

- October 1957 (65-years) The range stations on Antigua and Ascension became operational.
- 1 Oct 1957 (65-years) First all-military launch of a Snark by the 6555th Guided Missile Squadron.
- 1 Oct 1957 (65-years) First time two different cruise-type missiles (Snark and Matador) were airborne simultaneously requiring dual support by range instrumentation. See 17 November 1952 and 4 December 1952.
- 1 Oct 2002 (20-years) Effective this date, the 45th Logistics Group was redesignated the 45th Maintenance Group, and the 45th Support Group was redesignated the 45th Mission Support Group. The 45th Supply Flight became the 45th Logistics Readiness Flight, and the 45th Communications Squadron became the 45th Space Communications Squadron. A new squadron -- the 45th Range Management Squadron -- was activated and assigned to the 45th Maintenance Group on the same date. All those changes were directed by the Air Force Chief of Staff to implement the new standard wing organization Air Force-wide.
- 1 Oct 2022: **International Observe the Moon Night.** Everyone is invited to learn about lunar science and exploration, take part in celestial observations, and honor cultural and personal connections to the Moon.
<https://moon.nasa.gov/observe-the-moon-night/>
- 3 Oct 1942 (80-years) First successful V-2 flight, Peenemunde, Germany. Launch trajectory was steeper than planned due to pitch program error, but otherwise, the flight was considered successful. Rocket reached an altitude of 85 to 90 km. Though below the Karman Line of 100 km (62 miles), the boundary between the Earth's atmosphere and outer space, the rocket was described at the time as being the first rocket to reach outer space.
- 3 Oct 1962 (60-years) Astronaut Walter M. Schirra becomes the third American to orbit the Earth, Mercury-Atlas 8 from Complex 14, Sigma 7 was the name of the capsule. This was the first manned mission to splashdown in the Pacific Ocean, others to this point had landed in the Atlantic.
- 4 Oct 1957 (65-years) The Soviet Union launches Sputnik 1, world's first artificial satellite. The satellite weighed 184-pounds and was 22.8-inches in diameter, launched from Baikonur, USSR.

- 4 – 10 Oct 2022: **World Space Week.** World Space Week 2022 will celebrate the theme of Space and Sustainability. The purpose of the World Space Week (WSW) is to encourage everyone to create educational opportunities, activities, and events during WSW. WSW is an annual celebration of the peaceful uses of space for the benefit of humankind.
- 5 Oct 1882 (140-years) Robert H. Goddard, the father of astronautics is born in Worcester, Mass.
- 5 Oct 2007 (15-years) The ribbon cutting ceremony for the new 25,000-square-foot Security Forces Operations Facility was held at Patrick AFB.
- 5 Oct 2017 (5-years) First meeting of the newly reestablished National Space Council was held at the Smithsonian National Air and Space Museum's Steven F. Udvar-Hazy Center in Chantilly, Va. The National Space Council, chaired by Vice President Mike Pence, heard testimony from representatives from civil space, commercial space, and national security space industry representatives.
- 7 Oct 2002 (20-years) STS-112 (Space Shuttle Atlantis) launched from KSC at 3:46 p.m., EDT. Crew: Sandra H. Magnus and David A. Wolf, Pilot Pamela A. Melroy, Jeffrey S. Ashby, Piers J. Sellers, and cosmonaut Fyodor N. Yurchikhin. International Space Station (ISS) Flight 9A. Delivered S-1 (S-One) Truss. Landed on October 18 at 11:44 a.m. EDT at KSC. Mission Duration: 10 days, 19 hours, 58 minutes.
- 7 Oct 2012 (10-years) The first operation mission of the Dragon spacecraft under the NASA COTS program was launched from Cape Canaveral Complex 40 with a Falcon 9 launch vehicle. It successfully docked with the ISS and delivered its cargo, making it the first commercial vehicle to fly cargo to the space station. This was CRS-1, the first Commercial Resupply Services mission.
- 7 Oct 2022: **Draconids Meteor Shower.** The Draconids is a minor meteor shower producing only about 10 meteors per hour. It is produced by dust grains left behind by comet 21P Giacobini-Zinner, which was first discovered in 1900. The Draconids is an unusual shower in that the best viewing is in the early evening instead of early morning like most other showers. The shower runs annually from October 6-10 and peaks this year on the the night of the 7th. The first quarter moon will block out all but the brightest meteors this year. If you are patient, you may still be able to catch a few good ones. Best viewing will be in the early evening from a dark location far away from city lights. Meteors will radiate from the constellation Draco, but can appear anywhere in the sky.

- 9 Oct 1967 (55-years) Lunar Orbiter 3 intentionally crashed on Moon. The spacecraft was launched on 5 February 1967 (55-years ago this year) aboard an Atlas Agena-D booster from Complex 13. The probe was intentionally crashed onto the lunar surface at 14 degrees 36 minutes north latitude and 91 degrees 42 minutes west longitude.
- 9 Oct 2022: **Full Moon.** The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 20:55 UTC. This full moon was known by early Native American tribes as the Hunters Moon because at this time of year the leaves are falling and the game is fat and ready to hunt. This moon has also been known as the Travel Moon and the Blood Moon.
- 10 Oct 1997 (25-years) Submarine HMS Vigilant (UKS30) launched its first Trident II missile from off the coast of Cape Canaveral.
- 11 Oct 1957 (65-years) First successful destruction of a QB-17 drone target by a Bomarc missile. The first YIM-99A production-representative prototype flew with full guidance, and succeeded to pass the target within destructive range. In late 1957, Boeing received the production contract for the IM-99A Bomarc A interceptor missile, and in September 1959, the first IM-99A squadron became operational. The QB-17 was a B-17 aircraft outfitted to fly unmanned.
- 11 Oct 1967 (55-years) Lunar Orbiter 2 intentionally crashed on Moon. Lunar Orbiter 2 was launched on 6 November 1966 from Complex 13. When attitude control gas was almost depleted, a retro-burn deliberately crashed the spacecraft onto the lunar surface at 4 degrees south latitude and 98 degrees east longitude on the far side of the Moon to prevent communications interference on future missions.
- 11 Oct 2007 (15-years) The first in a series of Wideband Global SATCOM spacecraft, WGS-2 (F-1) was launched from Complex 41. The WGS was designed to complement the nation's aging constellation of Defense Satellite Communications System (DSCS) spacecraft.
- 11 – 12 Oct 2022: **Satellite Innovation**, Computer History Museum, Silicon Valley, California. <https://satelliteinnovation.com>
- 13 – 14 Oct 2022: **MilSat Symposium**, Computer History Museum, Silicon Valley, California. <https://milsatshow.com>

A Compendium of Aerospace Anniversaries and Events by
Roger McCormick, Air Force Space and Missile Museum

- 14 Oct 1947 (75-years) Capt. Charles "Chuck" Yeager, in the Bell X-1 rocket-powered aircraft becomes the first person to fly faster than the speed of sound. Flight conducted at Edwards AFB, California.
- 14 Oct 1957 (65-years) USAF announces the Dyna Soar program.
- 14 Oct 1992 (30-years) A Super Loki rocket was launched from Complex 47 as a Student Suborbital Launch Program event. The launch was funded by Spaceport Florida.
- 14 Oct 2012 (10-years) The Space Shuttle Endeavour, mounted atop an overland transporter, arrived at its new home - -the California Science Center near downtown Los Angeles.
- 15 Oct 1997 (25-years) Cassini-Huygens, a 12,670-pound interplanetary spacecraft was launched to explore the planet Saturn from Complex 40 utilizing a Titan IVB-Centaur booster.
- 17 Oct 1962 (60-years) Flaming debris from a destroyed Minutemen missile, following launch from Complex 31B, landed on Complex 26, penetrating the gantry and setting a fire to a Jupiter missile being fueled for a launch the following day. A member of the Minuteman Inadvertent Impact Convoy climbed to the top of the flaming gantry and directed firefighting efforts. By his decision to keep the LOX (liquid oxygen) fill lines in place and connected to the Jupiter missile, he prevented an even greater destruction in the event of LOX spillage.
- 17 Oct 2007 (25-years) A DELTA II booster carrying the Global Positioning System (GPS) IIR-17(M) replacement spacecraft was launched from Pad 17A.
- 18 Oct 1962 (60-years) Ranger 5 launched by Atlas Agena-B from Complex 12 at Cape Canaveral. This was the third attempt by the U.S. to impact the surface of the Moon using a Block 2 Ranger spacecraft. On this mission, after just 15 minutes of normal operation, a malfunction led to the transfer of power from solar to battery power. Normal operations never resumed, and the battery power was depleted after 8-hours.
- 19 Oct 2017 (5-years) NASA-funded Pan-STARRS1 telescope discovered the first confirmed object to travel through our solar system from another star. The historic discovery revealed the interstellar interloper to be a rocky, cigar-shaped object with a ratio of length to width unlike any asteroid or comet observed in our solar system.

- 21 – 22 Oct 2022: **Orionids Meteor Shower.** The Orionids is an average shower producing up to 20 meteors per hour at its peak. It is produced by dust grains left behind by comet Halley, which has been known and observed since ancient times. The shower runs annually from October 2 to November 7. It peaks this year on the night of October 21 and the morning of October 22. The thin, crescent moon will leave mostly dark skies for what should be a good show. Best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Orion, but can appear anywhere in the sky.
- 22 Oct 1957 (65-years) The first flight test of a prototype Jupiter IRBM equipped with an all-inertial guidance system succeeds, launch was from Complex 26, Pad-B. Not the first Jupiter, first with the all-inertial guidance system, was the first launch from LC-26B.
- 22 Oct 1962 (60-years) Cuban missile crisis announced by President John F. Kennedy in a televised broadcast. End of the Cuba crisis alert came on 28 Nov 1962 (55-years ago this year).
- 22 Oct 1992 (30-years) STS-52 (Space Shuttle Columbia) launched from KSC at 1:09 p.m., EDT. Crew: James D. Wetherbee, Michael A. Baker, Charles L. Veach, William M. Shepherd, Tamara E. Jernigan, and Steven G. MacLean (Canada). Deployed LAGEOS II on October 23, and CTA (Canadian Target Assembly) on October 31 from cargo bay. Landed November 1, 9:05 a.m. EST at KSC. Mission Duration: 9 days, 20 hours, 56 minutes.
- 22 – 23 Oct 2022: **NAS Jacksonville Air Show** - Birthplace of the Blue Angels, Naval Air Station Jacksonville. <https://www.nasjaxairshow.com/contact>
- 23 Oct 2007 (15-years) STS-120 (Space Shuttle Discovery) launched from KSC at 11:38 EDT. Crew: Pamela A. Melroy, Daniel M. Tani,, George D. Zamka, Douglas H. Wheelock, Scott E. Parazynski, Stephanie D. Wilson and Paolo Nespoli (ESA-Italy). International Space Station (ISS) Flight 10A. Installed Harmony Node 2 connecting module to the station to facilitate connecting, in future missions, the European Columbus laboratory and the Japanese Kibo laboratory. Landed: on November 7 at 1:01 p.m. EST, KSC. Mission Duration: 15 days, 2 hours, 23 minutes.
- 24 Oct 2007 (15-years) Chang'e 1, a People's Republic of China (PRC) lunar orbiter, was launched by a Long March 3A rocket at 10:05 UTC from Xichang launch center. The first of a planned series of Chinese missions to the Moon, it entered lunar orbit on November 7. Chang'e 1 will orbit the Moon for a year to test the technology for future missions and to study the lunar environment.

- 25 Oct 2007 (15-years) STS-120 Commander Pam Melroy and Expedition 16
Commander Peggy Whitson made history when the hatch between the space shuttle and orbiting outpost was opened. They became the first female spacecraft commanders to lead space shuttle and space station missions concurrently.
- 25 Oct 2022: **Partial Solar Eclipse.** A partial solar eclipse occurs when the Moon covers only a part of the Sun, sometimes resembling a bite taken out of a cookie. A partial solar eclipse can only be safely observed with a special solar filter or by looking at the Sun's reflection. This partial eclipse will be best seen in parts of western Russia and Kazakhstan. It will be best seen from central Russia with over 80% coverage.
- 29 - 30 Oct 2022: **Lockheed Martin Central Florida Air and Space Show 2022**
Orlando Sanford International Airport. <https://airandspace.com/>
- 30 Oct 1982 (40-years) First Titan 34D with first use of an Inertial Upper Stage (IUS) places a DSCS II and the first DSCS III jam-resistant secure communications satellite in orbit.
- 31 Oct 1957 (65-years) First 5000-mile guided missile flight on the Florida Missile Test Range made by a SM-62 type Snark. It was the first flight in which picket ships were used to support the flight to Ascension Island. Six FS type vessels were equally spaced on a great circle course between Antigua and Ascension Islands. This flight marked the opening of the full 5000-mile range. Antigua and Ascension were declared operationally ready and this was the first time they were used to support a missile flight.

NOVEMBER 2022

- 1 Nov 1947 (75-years) President Harry S. Truman approves final sketch of the Air Force seal.
- 2 Nov 2007 (15-years) The Range Operations Control Center (ROCC) at CCAFS was renamed in honor of Major General Jimmey R. Morrell, former 1st Space Division, Eastern Space and Missile Center (ESMC), and 45th Space Wing Commander.
- 2 Nov 2007 (15-years) Space Exploration Technologies Corporation (SpaceX) hosted its official ground breaking ceremony at Cape Canaveral's Complex 40.
- 2 Nov 2012 (10-years) Space Shuttle Atlantis arrived at its new home at the Kennedy Space Center Visitor Complex.
- 3 Nov 1957 (65-years) Sputnik 2 carries the dog Laika into space, the first living creature to orbit the Earth.
- 4 – 5 Nov 2022: **Taurids Meteor Shower.** The Taurids is a long-running minor meteor shower producing only about 5-10 meteors per hour. It is unusual in that it consists of two separate streams. The first is produced by dust grains left behind by Asteroid 2004 TG10. The second stream is produced by debris left behind by Comet 2P Encke. The shower runs annually from September 7 to December 10. It peaks this year on the the night of November 4. This year the nearly full moon will block out all but the brightest meteors. But if you are patient, you may still be able to catch a few good ones. Best viewing will be just after midnight from a dark location far away from city lights. Meteors will radiate from the constellation Taurus, but can appear anywhere in the sky.
- 5 Nov 2022: **Archaeologists for Autism.** This will be the 7th annual Archaeologists for Autism event. The Archaeologists for Autism mission is to unlock the potential of children and young adults with developmental disabilities. We aim to provide children with autism spectrum disorders and their families a chance to experience archaeology in a fun, low stress environment. Keep checking back for more information. It's totally free.
<https://www.facebook.com/archaeologistsforautism/>
- 6 Nov 1962 (60-years) The range annexes in the Dominican Republic were given to the Dominican Government on this date.

- 7 Nov 1957 (65-years) President Eisenhower announced that the U.S. had solved the missile reentry problem. He then showed the TV audience a nosecone recovered from a Jupiter missile fired in August 1957 from Complex 6. Launch was on 8 Aug 1957 (65-years).
- 7 Nov 1967 (55-years) Surveyor 6 launched by an Atlas Centaur booster from Complex 36. Surveyor 6 landed safely on the Moon at 01:01:04 UT 10 November 1967, in the Sinus Medii (Central Bay) region. Before termination of operations, on Nov. 17, 1967, Surveyor 6 was commanded to fire its three main liquid propellant thrusters for 2.5 seconds. As a result, the lander became the first spacecraft to be launched from the lunar surface. Surveyor 6 lifted up to about 10 feet (3 meters) before landing about 8 feet (2.5 meters) west of its original landing point.
- 8 Nov 2022: **Full Moon.** The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 11:03 UTC. This full moon was known by early Native American tribes as the Beaver Moon because this was the time of year to set the beaver traps before the swamps and rivers froze. It has also been known as the Frosty Moon and the Dark Moon.
- 8 Nov 2022: **Total Lunar Eclipse.** A total lunar eclipse occurs when the Moon passes completely through the Earth's dark shadow, or umbra. During this type of eclipse, the Moon will gradually get darker and then take on a rusty or blood red color. The eclipse will be visible throughout eastern Russia, Japan, Australia, the Pacific Ocean, and parts of western and central North America.
- 9 Nov 1967 (55-years) First Saturn V launch, Apollo 4, unmanned. First launch from Complex 39, first launch from Kennedy Space Center.
- 9 Nov 2022: **Uranus at Opposition.** The blue-green planet will be at its closest approach to Earth and its face will be fully illuminated by the Sun. It will be brighter than any other time of the year and will be visible all night long. This is the best time to view Uranus. Due to its distance, it will only appear as a tiny blue-green dot in all but the most powerful telescopes.
- 11 Nov 1982 (40-years) STS-5 (Space Shuttle Columbia) launched, 7:19 a.m., EST, KSC. Crew: Vance D. Brand, Robert F. Overmyer, Joseph P. Allen, and William B. Lenoir. First Shuttle operational mission deployed two commercial communications satellites, SBS 3 for Satellite Business Systems and Anik C 3 (Telesat 5) for Telesat Canada. Landed November 16, 6:33 a.m., PST, Edwards Air Force Base (EAFB), CA.

- 11 – 12 Nov 2022: **NAS Pensacola Open House**, Blue Angels Homecoming Air Show at Sherman Field, Naval Air Station Pensacola.
<https://www.naspensacolaairshow.com/>
- 12 Nov 2007 (15-years) On behalf of the Eastern Range, Brigadier General Susan J. Helms signed the Statement of Capability (SC) for the Aires 1-X launch. The launch was conducted at Complex 39, Pad B.
- 15 Nov 2007 (15-years) Japan's Selene lunar orbiting spacecraft Selene (or Kayuga) captured first high-definition photos of Earth rise and Earth set.
- 16 Nov 1962 (60-years) SA-3 (Saturn I rocket) launched from Complex 34 at Cape Canaveral, Fla. This was an uncrewed test flight of the Saturn 1 (SA-3) booster. The Saturn 1st stage carried upper stages filled with 23,000 gallons of water on a sub-orbital flight to a peak altitude of 167 km, 4 minutes 53 seconds after launch. At this point it was detonated by radio command, releasing the water into the ionosphere where it formed a massive cloud of ice particles several km in diameter. This cloud experiment, Project High Water II, was hoped to provide data on atmospheric physics but poor telemetry made the results questionable. This was the third flight of the Saturn 1 booster and the first flight with a fully fueled first stage.
- 17 Nov 1952 (70-years) Two Matador missiles were launched from Cape Canaveral in the first successful attempt to launch two Matadors on the same day. One of those was the first production model B-61R Matador tested on the range. See 1 October 1952 and 4 December 1952.
- 17 – 18 Nov 2022: **Leonids Meteor Shower**. The Leonids is an average shower, producing an average of up to 15 meteors per hour at its peak. This shower is unique in that it has a cyclonic peak about every 33 years where hundreds of meteors per hour can be seen. That last of these occurred in 2001. The Leonids is produced by dust grains left behind by comet Tempel-Tuttle, which was discovered in 1865. The shower runs annually from November 6-30. It peaks this year on the night of the 17th and morning of the 18th. The second quarter moon will block many of the fainter meteors this year. But the Leonids can be unpredictable so there is still potential for a good show. Best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Leo, but can appear anywhere in the sky.

A Compendium of Aerospace Anniversaries and Events by
Roger McCormick, Air Force Space and Missile Museum

- 19 Nov 1997 (25-years) STS-87 (Space Shuttle Columbia) launched, 2:46 p.m. EST, KSC. Crew: Steven W. Lindsey, Kevin R. Kregel, Winston E. Scott, Kalpana Chawla, Takao Doi (Japan), and Leonid K. Kadenyuk (Ukraine). Carried United States Microgravity Payload (USMP-4). Landed December 5, 7:20 a.m. EST, KSC. Mission Duration: 15 days, 16 hours, 35 minutes.
- 20 Nov 2002 (10-years) Boeing launched its first DELTA IV from Complex 37. The Eutelsat W5 communications spacecraft was the payload, the mission was successful.
- 21 Nov 1982 (40-years) Submarine USS Michigan (SSBN 727) launched its first Trident missile from off the coast of Cape Canaveral.
- 23 Nov 2002 (20-years) STS-113 (Space Shuttle Endeavour) launched 7:50 p.m. EST, KSC. Crew: Paul Lockhart, James B. Wetherbee, Michael E. Lopez-Alegria, John B. Herrington, Kenneth B. Bowersox, Donald R. Pettit and cosmonaut Nikolai M. Budarin. International Space Station (ISS) Flight 11A. Delivered P1 (P-One) Truss and exchanged the Expedition Five and Six crews. Landed Dec. 7 at 2:37 p.m. EST, KSC. Mission Duration: 13 days, 18 hours, 47 minutes.
- 24 Nov 1987 (35-years) NASA released a report to the Congress on an extended-duration Space Shuttle orbiter. The report examined key aspects of a program that would allow the Shuttle to perform Earth-orbital missions for as long as 16 days.
- 26 Nov 1952 (70-years) First Snark launch, N-25 model Snark. After three dummy vehicle launches earlier in the year; the first real SNARK was finally launched from the Cape.

DECEMBER 2022

- December 1947 (75-years) A draft of the enabling legislation for the joint long range proving ground, prepared by the JLRPG Group, was submitted to the Army and Navy for formal coordination. The Army agreed to the draft, but the Navy raised certain objections and proposed some changes.
- 2 Dec 1992 (30-years) STS-53 (Space Shuttle Discovery) launched, 8:24 a.m., EST, KSC. Astronauts David M. Walker, Robert D. Cabana, Guion Bluford, Jr., James S. Voss, and Michael R. Clifford. Classified Department of Defense primary payload. Landed at Edwards Air Force Base, CA, 3:43 p.m., EST. Mission Duration: 7 days, 7 hours, 19 minutes.
- 4 Dec 1952 (70 years) For the first time, two different type missiles (Matador and Lark) were launched from Cape Canaveral on the same day. See 1 October 1957 and 17 November 1952.
- 6 Dec 1957 (65-years) First U.S. attempt to launch a Vanguard satellite ended in failure as the booster rose only a few inches before falling back to the pad where it exploded. This was the first American attempt to launch a satellite.
- 7 Dec 1957 (65-years) First fully successful test of the Thor IRBM equipped with an all-inertial Guidance system, Complex 17, Pad-B.
- 7 Dec 1972 (50-years) Launch of Apollo 17 from Complex 39, last manned mission to land on the Moon, Astronauts; Eugene Cernan, Ronald Evans, and Harrison Schmitt. Launched aboard a Saturn V (SA-512), landed on December 11 in the Taurus-Littrow region.
- 8 Dec 2022: **Mars at Opposition.** The red planet will be at its closest approach to Earth and its face will be fully illuminated by the Sun. It will be brighter than any other time of the year and will be visible all night long. This is the best time to view and photograph Mars. A medium-sized telescope will allow you to see some of the dark details on the planet's orange surface.
- 8 Dec 2022: **Full Moon.** The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 04:09 UTC. This full moon was known by early Native American tribes as the Cold Moon because this is the time of year when the cold winter air settles in and the nights become long and dark. This moon has also been known as the Long Nights Moon and the Moon Before Yule.

9 Dec 1967 (55-years) Florida's Governor Claude Kirk hosted a Cape tour for 26 United States governors.

10 Dec 2022: **The Space Force Inaugural T-Minus 10-Miler**. The 10-mile race will be an annual birthday celebration and take place surrounded by launch history at Cape Canaveral Space Force Station.
<https://runspaceforce.com/10-miler/>

13 Dec 1962 (60-years) First Delta-B launch, Complex 17, Pad-A. Relay 1 launched by Thor Delta (Delta-B booster). Relay 1 was the first satellite to broadcast television from the United States to Japan. The first broadcast during orbit 2677 (22 November 1963) was to be a prerecorded address from the president of the United States to the Japanese people, but was instead the announcement of the John F. Kennedy assassination. On orbit 2678, this satellite carried a broadcast titled *Record, Life of the Late John F. Kennedy*, the first television program broadcast simultaneously in the U.S. and Japan. In later orbits, NBC transmitted coverage of the funeral procession from the White House to the cathedral. In the three days following the Kennedy assassination, Relay 1 handled a total of 11 spot broadcasts; eight to Europe and three to Japan. All the useful passes of the satellite was made available to permit immediate coverage of the tragic events.

13 – 14 Dec 2022: **Geminids Meteor Shower**. The Geminids is the king of the meteor showers. It is considered by many to be the best shower in the heavens, producing up to 120 multicolored meteors per hour at its peak. It is produced by debris left behind by an asteroid known as 3200 Phaethon, which was discovered in 1982. The shower runs annually from December 7-17. It peaks this year on the night of the 13th and morning of the 14th. The waning gibbous moon will block many of the fainter meteors this year. But the Geminids are so numerous and bright that this should still be a good show. Best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Gemini, but can appear anywhere in the sky.

14 Dec 1962 (60-years) Mariner 2 makes first flyby of another planet; Venus. Launch was from Complex 12 on 27 August 1962 (60-years ago).

16 Dec 1917 (105-years) Science fiction writer Arthur C. Clarke is born. He wrote "2001, A Space Odyssey", he was also the first to propose the concept of geostationary satellites.

- 17 Dec 1957 (65-years) First fully successful flight test of a series "A" Atlas ICBM occurs at Cape Canaveral, Complex 14; the series "A" Atlas ICBM was equipped with booster but not sustainer engines and was incapable of achieving staging (stage separation) during flight.
- 18 Dec 1997 (25-years) Submarine USS Louisiana (SSBN 743) launched its first Trident II missile from off the coast of Cape Canaveral.
- 21 Dec 1962 (60-years) President John F. Kennedy and British Prime Minister Harold Macmillan issue a joint statement following their meeting in Nassau, Bahamas, cancelling the Skybolt missile program.
- 21 Dec 2022: **December Solstice.** The December solstice occurs at 21:40 UTC. The South Pole of the earth will be tilted toward the Sun, which will have reached its southernmost position in the sky and will be directly over the Tropic of Capricorn at 23.44 degrees south latitude. This is the first day of winter (winter solstice) in the Northern Hemisphere and the first day of summer (summer solstice) in the Southern Hemisphere.
- 21 – 22 Dec 2022: **Ursids Meteor Shower.** The Ursids is a minor meteor shower producing about 5-10 meteors per hour. It is produced by dust grains left behind by comet Tuttle, which was first discovered in 1790. The shower runs annually from December 17-25. It peaks this year on the night of the 21st and morning of the 22nd. This year, the nearly new moon will leave dark skies for what should be a really good show. Best viewing will be just after midnight from a dark location far away from city lights. Meteors will radiate from the constellation Ursa Minor, but can appear anywhere in the sky.
- 22 Dec 1962 (60-years) First successful flight of the Skybolt missile was also the last flight as the program was cancelled. Launch was from a B-52G aircraft out of Eglin AFB. First test (unsuccessful) was conducted on 19 April 1962 (60-years ago this year).
- 24 Dec 1952 (70-years) Patrick Air Force Base was designated a permanent Air Force installation. Named Patrick AFB in August, 1950.
- 29 Dec 2002 (20-years) Shenzhou 4 (meaning Divine Vessel), a Chinese (PRC) unmanned test satellite launched from Jiuquan Satellite Launch Center in northwestern China by a Long March 2F rocket at 16:40 UTC. It carried a retrievable crew module with all furnishings, test equipment, and dummy astronauts to assess its viability for a manned launch.

30 Dec 1947 (75-years) Department of Defense notified Department of the Air Force that, in view of the unification of the armed forces under the National Security Act of 1947, the Joint Research and Development Board had rescinded its earlier decision to assign implementation of the long range proving ground project to the War Department and had instead allocated this responsibility to the Department of the Air Force. The Board also changed the name of the project to the Joint Long Range Proving Ground; therefore, the implementing staff was redesignated the Joint Long Range Proving Ground Group.

30 Dec 1957 (65 years) Dr. Wernher von Braun proposes the Saturn-class launch vehicle, also see 25 January 1962 (60-years).

Events without confirmed dates as of yet:

Cape Canaveral Founders Day, visit: <https://www.cityofcapecanaveral.org/>

Spacefest, for updates visit: <https://www.spacefest.info/>

by: Roger McCormick

321-223-1872

rogermccormick321@gmail.com