

FORECAST OF UPCOMING ANNIVERSARIES -- NOVEMBER 2015

80 Years Ago - 1935

November 11: Captains Stevens and Anderson, U.S. Army Air Corps, reached an altitude of 14 miles (74,000 feet) in stratospheric balloon Explorer II; take-off was at Rapid City, SD, and landing eight hours and 12 minutes later 340 miles away near Aurora, NE.

60 Years Ago - 1955

November 18: First powered flight of Bell X-2, piloted by Lt. Col. Frank Everest, Edwards AFB, CA.

55 Years Ago - 1960

November 3: Explorer 8 launched by Juno II, 12:23 a.m., EST, Cape Canaveral, Fla.

November 8: Little Joe V failed, 10:18 a.m., EST, Wallops Flight Facility (WFF), VA.

November 21: Mercury-Redstone (MR-1) failed, 8:00 a.m., Cape Canaveral, Fla.

November 23: Tiros 2 launched by Thor Delta, 6:13 a.m., EST, Vandenberg AFB, CA.

50 Years Ago - 1965

November 6: GEOS 1 (Explorer 29) orbited by a Delta, 1:39 p.m., EST, Cape Canaveral, Fla.

November 16: Venera 3 crash-landed on Venus and became first spacecraft to reach another planet.

November 18: Explorer 30 (Solar Explorer A) launched by a Scout, 11:48 p.m., EST, Wallops Flight Facility (WFF), VA.

November 26: Asterix 1 Launch (France's 1st Satellite). First satellite to be launched by a nation other than the US and the USSR with the use of its own launch vehicle (Diamant A from Hammaguir, Algeria).

November 29: Explorer 31, a small ionospheric observatory, was launched by Thor-Agena B from Vandenberg AFB, CA, 11:48 p.m., EST.

45 Years Ago - 1970

November 9: OFO 1 (Orbiting Frog Otolith) launched by a Scout. 1:00 a.m., EST, Wallops Flight Facility (WFF).

November 10: Luna 17 launched by a Proton K rocket from Baikonur. It landed on the moon 7 days later in the Sea of Rains. The first Moon rover, Lunokhod 1, was then deployed and remote-controlled by a 5-man team from Earth. The rover traveled over the lunar surface for 11 months, transmitted photos and analyzed soil samples.

November 25: First M2-F2 powered flight, William H. Dana pilot, Dryden Flight Research Facility (DFRF), CA.

November 30: OAO-B failed to orbit, launched by Atlas-Centaur, 5:40 p.m., EST, Cape Canaveral, Fla.

40 Years Ago - 1975

November 19: Explorer 55 launched (AE-E) by a Delta, 9:06 p.m., EST, Cape Canaveral, Fla.

November 26: China 4, a military photo surveillance satellite, was the People's Republic's first retrievable satellite. It was launched on a CZ-2 (Long March) from Shuang Cheng-Tzu, Peoples Republic of China.

November 26: Last flight of the lifting body program, Thomas C. McMurtry, pilot, Dryden Flight Research Facility (DFRF).

35 Years Ago - 1980

November 12: Voyager 1, Saturn Flyby 78,000 miles above the cloud tops. Voyager sent back spectacular photos and discovered new moons.

November 16: SBS-I launched, 5:49 p.m., EST, Cape Canaveral, Fla.

30 Years Ago - 1985

November 26: STS-61B (Space Shuttle *Atlantis*), launched 7:29 p.m., EST from KSC. Crew: Brewster H. Shaw, Bryan D. O'Connor, Mary L. Cleave, Sherwood C. Spring, Jerry L. Ross, Rudolfo Neri Vela (First Mexican citizen in space), and Charles D. Walter. From shuttle cargo bay the crew launched Morelos-B, Aussat-2, and Satcom KU-2. Atlantis landed at EAFB, CA. Dec. 3, 1:33:49 p.m., PST. Mission Duration: six days, 22 hours, and 54 minutes.

25 Years Ago - 1990

November 15: STS-38 (Space Shuttle *Atlantis*), launched from KSC, 6:48 p.m., EST. Crew: Richard O. Covey, Frank L. Culbertson, Jr., Charles "Sam" Gemar, Robert C. Springer and Carl J. Meade. Crew launched a classified Department of Defense payload. Landed at KSC, November 20, 4:43 p.m., EST. Mission Duration: 117 hours, and 54 minutes.

20 Years Ago - 1995

November 4: RADARSAT-1 launched by a Delta 2 from Vandenberg at 6:22 a.m. PST.

November 12: STS-74 (Space Shuttle *Atlantis*), launched from KSC, 7:30 a.m., EST. Crew: Kenneth D. Cameron, James D. Halsell, Jerry L. Ross, William S. McArthur, Jr. and Chris A. Hadfield. Second Shuttle-Mir flight. Brought the Russian Docking Module. Landed at KSC, November 20 at 12:01 p.m., EST. Mission Duration: 8 days, 4 hours, and 31 minutes.

15 Years Ago - 2000

November 2: The International Space Station became occupied with the arrival of the Expedition One crew consisting of William M. Shepherd (commander), Yuri Gidzenko, and Sergei K. Krikalev aboard the Soyuz TM-31 launched on Oct. 31 from Baikonur. The Expedition One mission lasted 136 days and the ISS has been continuously operated by successive crews since then.

November 21: EO 1 (Earth Observing mission 1), the first spacecraft in the American New Millennium Program (NMP) was launched by a Delta 2 rocket from Vandenberg AFB at 13:24 UTC.

November 30: STS 97 (Space Shuttle *Endeavour*), launched from KSC, 10:06 p.m. EST. Crew: Brent Jett, Michael J. Bloomfield, Joseph R. I. Tanner, Carlos Noriega, and Marc Garneau (Canada). ISS Assembly Flight 4A. Landed at KSC, Dec. 11, 2000 at 6:04 p.m. EST. Mission Duration: 10 days, and 19 hours, and 57 minutes.

10 Years Ago - 2005

November 9: Venus Express, an ESA planetary mission was launched by a Soyuz-Fregat rocket from Baikonur, designed to monitor the atmosphere of Venus.

5 Years Ago – 2010

November 4: NASA's EPOXI spacecraft successfully flew past comet Hartley 2, providing unprecedented images and giving scientists new information about the comet's volume and material erupting from its surface.

November 14: SkyTerra 1, a commercial communication satellite, was launched from Baikonur at 17:29 UTC by a Proton rocket with a Breeze M upper stage. SkyTerra 1 will join traditional terrestrial cell networks to shape a fourth-generation, or 4G, wireless system designed to reach nearly every American by the end of 2016. It carries a 22-m diameter L-band antenna, the largest commercial antenna reflector ever built.

November 20: FAST 1, also known as USA 222, was launched from Kodiak at 01:25 UTC by a Minotaur 4 rocket. Built by students at the University of Texas, Austin, FAST 1 is also called FASTRAC (Formation Autonomy Spacecraft with Thrust, Relnav, Attitude and Crosslink) and consists of two satellites launched together for formation flying and testing of a GPS navigation experiment. FASTSAT-HSV01 (Fast Affordable Science and Technology Satellite), a NASA microsatellite also known as USA 220, was launched from Kodiak on the same launch vehicle as FAST 1 to test a Threat Detection System and a Miniature Star Tracker for the US Air Force Research Laboratory. STPSAT 2, also known as USA 217, a technology demonstration for the USAF Space Test Program, was launched with the two payloads described above. Finally, O/OREOS (Organism/Organic Exposure to Orbital Stresses), a NASA nanosatellite also known as USA 219, carried a three unit CubeSat carrying two biological experiments.