

Explorer 1 became the first successfully launched satellite by the United States when it was sent to space on Jan. 31, 1958. A quick response to the Soviet Union's launch of Sputnik 1, Explorer 1's success marked the beginning of the U.S. Space Age.

Right: A model of Explorer 1, held by JPL's Director William Pickering, scientist James Van Allen and rocket pioneer Wernher von Braun.

January 2019



Sun	Mon	Tue	Wed	Thu	Fri	Sat
		New Year's Day 1	2	2004 Mars Exploration Rover "Spirit" lands at Gusev Crater on Mars. 3	4	5
6	7	8	9	10	11	2005 Deep Impact launches to encounter comet Tempel 1. 12
13	2005 The Huygens probe lands on Titan, Saturn's mysterious smoggy moon. 14	15	16	2016 Jason 3 satellite launches to measure global sea surface heights. 17	18	19
20	Martin Luther King Jr. Day 21	22	23	1986 Voyager 2 makes the first-ever flyby of Uranus. 24	1983 The Infrared Astronomical Satellite launches into Earth's orbit. 25	26
27	28	29	30	1958 Explorer 1 is launched as the first U.S. satellite. 31		

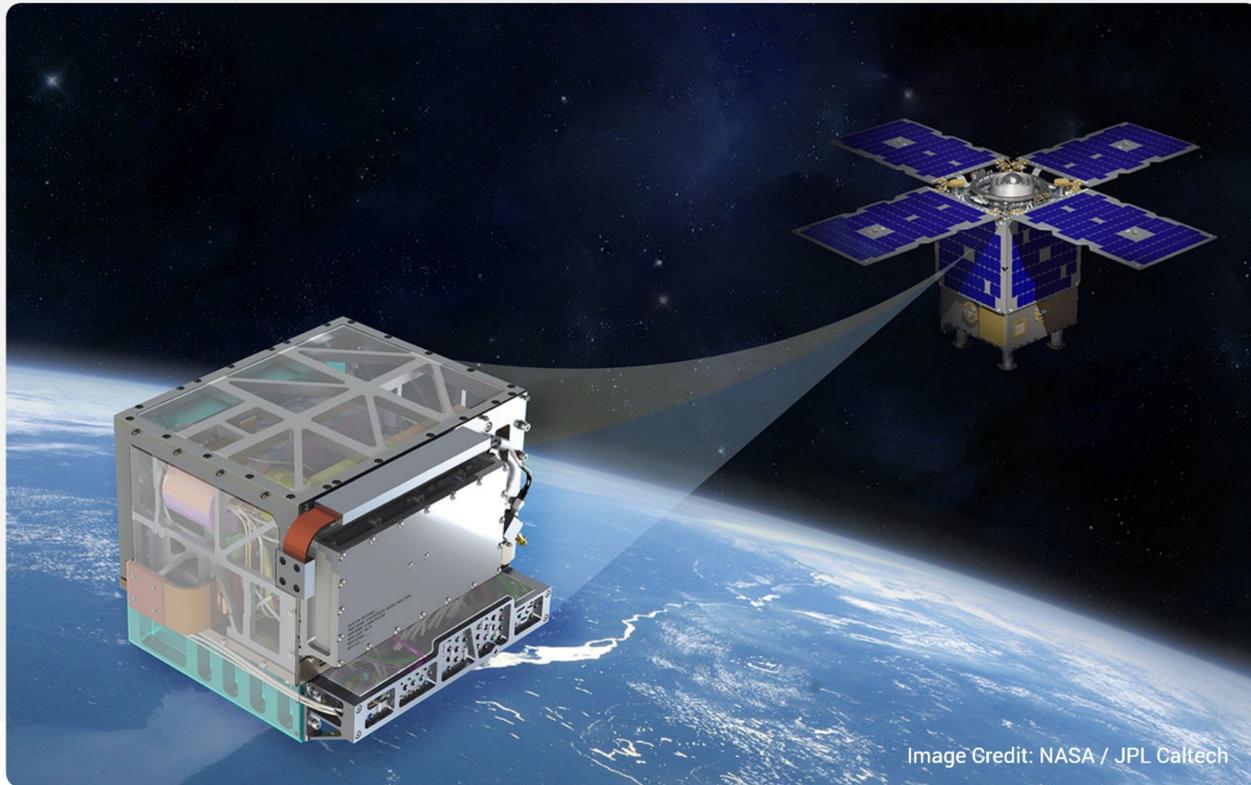


Image Credit: NASA / JPL Caltech

In deep space, accurate timekeeping is vital to navigation, but many spacecraft lack precise timepieces on board. For 20 years, NASA's Jet Propulsion Laboratory in Pasadena, California, has been perfecting a clock. It's not a wristwatch; not something you could buy at a store. It's the Deep Space Atomic Clock (DSAC), an instrument perfect for deep space exploration.

February 2019



Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	1974 Using gravity-assist, Mariner 10 swings by Venus to propel on to Mercury.	2018 Atomic Clock test for Deep Space network.	1999 Stardust launches to return samples of comet and interstellar dust to Earth.	8	9
10	2000 The Shuttle Radar Topography mission launches to map Earth's topography.	1997 JPL teams up with the Space VLBI to observe the distant universe.	13	Valentine's Day	15	16
1998 Voyager 1 becomes the most distant human-made object in space.	Presidents' Day	19	20	21	2017 Spitzer reveals first known system of seven Earth-sized planets around a single star.	23
1969 Mariner 6 launches to assist in the first dual mission to Mars.	25	26	27	28		



Image Credit: NASA / JPL Caltech

The Goldstone Deep Space Communications Complex, located in the Mojave Desert in California, is one of three complexes that comprise NASA's Deep Space Network (DSN). The image on the left was taken on June 17, 1965, during its construction.

March 2019

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2004 JPL's Microwave Instrument on the Rosetta Orbiter launches. 2
3	4	1979 Voyager 1 makes its closest approach to Jupiter. 5	2009 The Kepler mission launches on a search for Earth-like planets. 6	1958 Pioneer 4 launches and escapes Earth's gravity to orbit the Sun. 7	8	9
2006 Mars Reconnaissance Orbiter enters Mars orbit. 10	Daylight Saving 11	12	13	14	15	16
2002 The GRACE mission is launched. St. Patrick's Day 17	18	19	20	1965 Ranger 9 launches and three days later impacts the Moon in crater Alphonsus. 21	22	2016 Goldstone radar images the closest comet flyby of Earth in recorded history. 23
24	25	26	27	28	29	30
31						



Image Credit: NASA / JPL Caltech

JPL's Finding Individuals for Disaster and Emergency Response (FINDER) prototype technology can locate individuals buried under rubble in disaster scenarios. The suitcase-sized device helped uncover four survivors following the 7.8-magnitude earthquake that devastated Nepal on April 25, 2015.

April 2019



Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
2001 Mars Odyssey launches; it enters the Red Planet's orbit on October 24.	7	8	9	10	11	12
13	14	15	16	1967 Surveyor 3 launches, landing on the Moon on April 20.	2014 OPALS experiment begins testing on the International Space Station.	18
19	20	21	22	23	24	2015 JPL's FINDER instrument locates four trapped men after a 7.8 earthquake.
2017 Cassini performs first-ever dive through Saturn and its rings.	26	27	28	29	30	

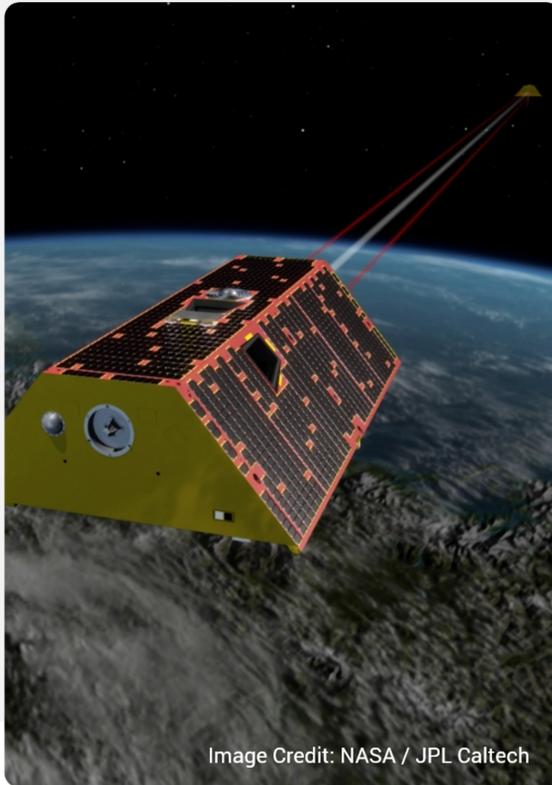
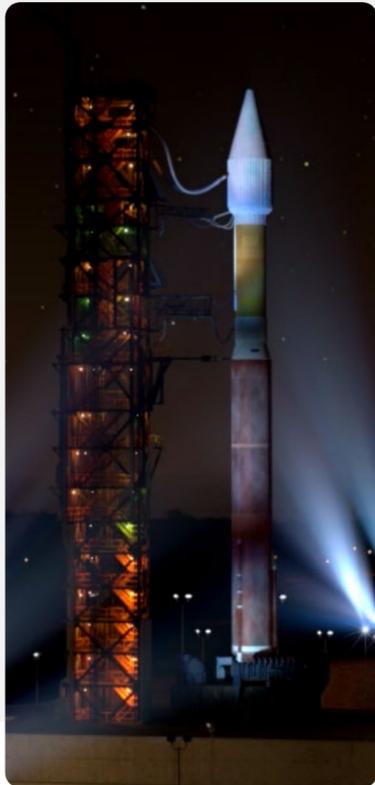
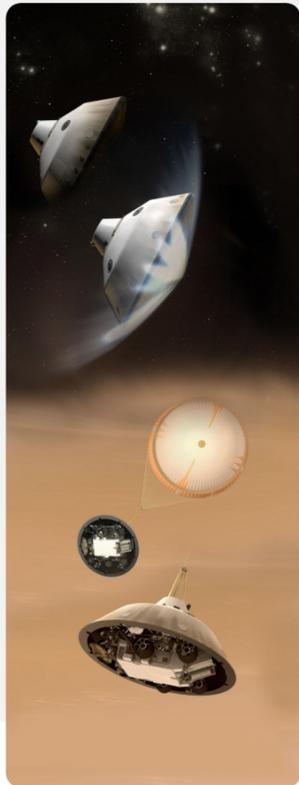


Image Credit: NASA / JPL Caltech

Left: Depiction of entry, descent, and landing (EDL) phase of the Mars Science Laboratory mission. Mars Science Laboratory used a guided entry and a Sky Crane touchdown system to land the massive Curiosity rover.

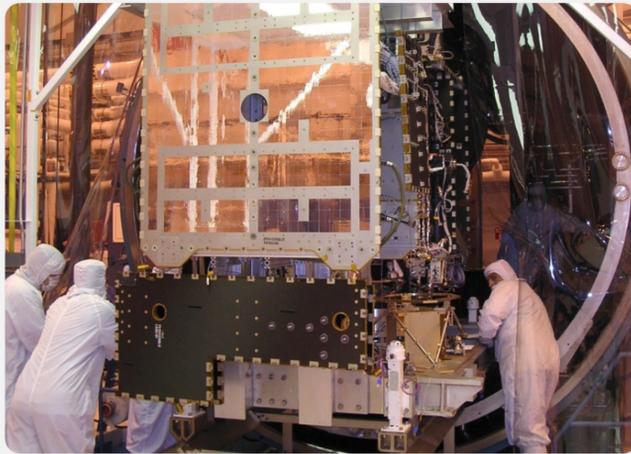
Middle: InSight launched under pre-dawn skies from Vandenberg Air Force Base on the central coast of California on May 5, 2018.

Right: GRACE-FO is a successor to the original GRACE mission.

May 2019



Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4 1989 Magellan launches on a mission to Venus.
5 2018 InSight launched from Vandenberg Air Force Base in California.	6	7	8	9	10	11
12 Mother's Day	13	14 2009 JPL technology launches on Herschel/Planck mission.	15	16	17	18
19	20 2010 The "Opportunity" rover surpasses the duration record set by Viking 1.	21	22 2018 GRACE-FO launched from Vandenberg Air Force Base in California.	23	24 2008 Phoenix lands near Mars' north pole to dig for water ice and analyze the soil.	25
26	27 Memorial Day	28	29	30 1971 Mariner 9 launches for Mars, becoming the first spacecraft to orbit another planet.	31	



Oct. 19, 2017, NASA authorizes a second extension of the Dawn mission at Ceres, the largest object in the asteroid belt between Mars and Jupiter. During this extension, the spacecraft descended to lower altitudes than ever before at the dwarf planet, which it has been orbiting since March 2015. The spacecraft continued at Ceres for the remainder of its science investigation and will remain in a stable orbit indefinitely after its hydrazine fuel runs out.

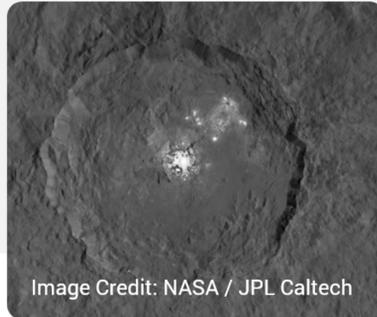


Image Credit: NASA / JPL Caltech

June 2019



Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
1966 2 Surveyor 1 becomes the first U.S. spacecraft to make a soft landing on the Moon.	3	4	5	2015 6 RoboSimian places in the top five at DARPA's Robotic Challenge finals.	7	8
9	2003 10 Mars Exploration Rover "Spirit" launches for Mars.	11	2012 12 NuSTAR launches to conduct a deep X-ray survey for black holes.	13	14	15
Father's Day 16	17	18	1976 19 Viking 1 arrives in orbit at Mars.	2008 20 The Ocean Surface Topography/Jason 2 mission launches.	21	22
23	24	25	1978 26 The experimental Seasat satellite launches to study Earth and its seas.	27	2014 28 The Low-Density Supersonic Decelerator reentry vehicle for Mars is tested over Hawaii.	29
2004 30 Cassini-Huygens enters Saturn orbit.						



Clockwise from
Top left: A dry run exercise for Ranger 7.
Center: A model of the Ranger 6 spacecraft.
Top right: The first picture of the Moon taken by a U.S. spacecraft (Ranger 7), on July 31, 1964.
Bottom left: Ranger 7 Launch and mission control.
Bottom right: NBC TV rehearsal in building 179 with Cliff Cummings in front of a Ranger block 2 spacecraft.

Image Credit: NASA / JPL Caltech

July 2019



Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2014 OCO-2 is launched to study carbon dioxide in Earth's atmosphere.	2	2005 Deep Impact's impactor collides with comet Tempel 1.	3	1997 Mars Pathfinder lands. 2016 Juno enters Jupiter's orbit. Independence Day
2003 Mars Exploration Rover "Opportunity" launches for Mars.	7	8	9	10	11	12
1965 After an eight month voyage to Mars, Mariner 4 radios back the first close-up photos.	14	2011 The Dawn spacecraft enters orbit around proto-planet Vesta.	15	16	17	18
	19	1976 Viking 1's Mars lander becomes the first craft to soft-land on another planet.	20	21	22	23
	24	2015 Kepler scientists discover the first near-Earth size planet in the "habitable zone".	23	24	25	26
1964 Ranger 7 launches and executes an intentional crash-landing into the Moon.	28	2003 Spitzer Space Telescope launches to study asteroids, dust-covered stars and distant galaxies.	29	30	31	

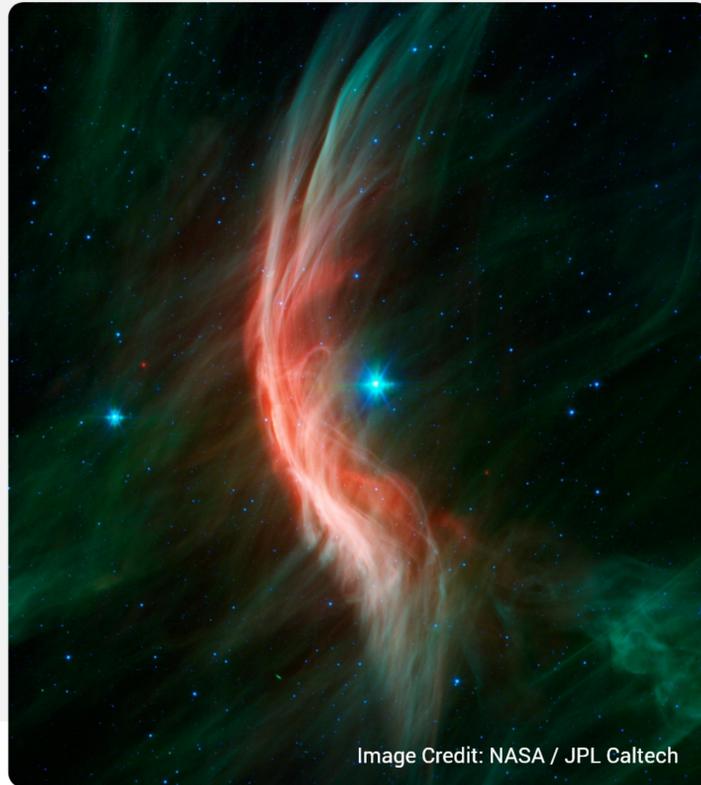


Image Credit: NASA / JPL Caltech

Over its ten years in space, NASA's Spitzer Space Telescope has evolved into a premier tool for studying exoplanets.

Left: Preparation and assembly of the Spitzer Space Telescope.

Right: The giant star Zeta Ophiuchi is having a "shocking" effect on the surrounding dust clouds in this infrared image from NASA's Spitzer Space Telescope. Zeta Ophiuchi is a young, large and hot star located around 370 light-years away.

August 2019



Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
2007 Phoenix, a Mars lander, launches to the Red Planet. 4	2012 The MSL "Curiosity" rover makes a dramatic landing on the Red Planet. 5	6	7	2001 Genesis launches on a mission to return samples of the solar wind to Earth. 8	9	1990 Magellan enters orbit around Venus and will ultimately map 98 percent of the planet's surface. 10
11	2005 Mars Reconnaissance Orbiter launches to study the history of water on Mars. 12	2005 The Stardust spacecraft is reactivated to conduct a follow-up visit to Tempel 1. 13	14	15	16	17
18	19	1975 The Viking 1 orbiter/lander pair is launched towards Mars. 20	21	22	23	24
1989 Voyager 2 is the first spacecraft to fly by Neptune. 25	26	27	1993 Galileo flies by a second asteroid, Ida, on its way to Jupiter. 28	29	30	31

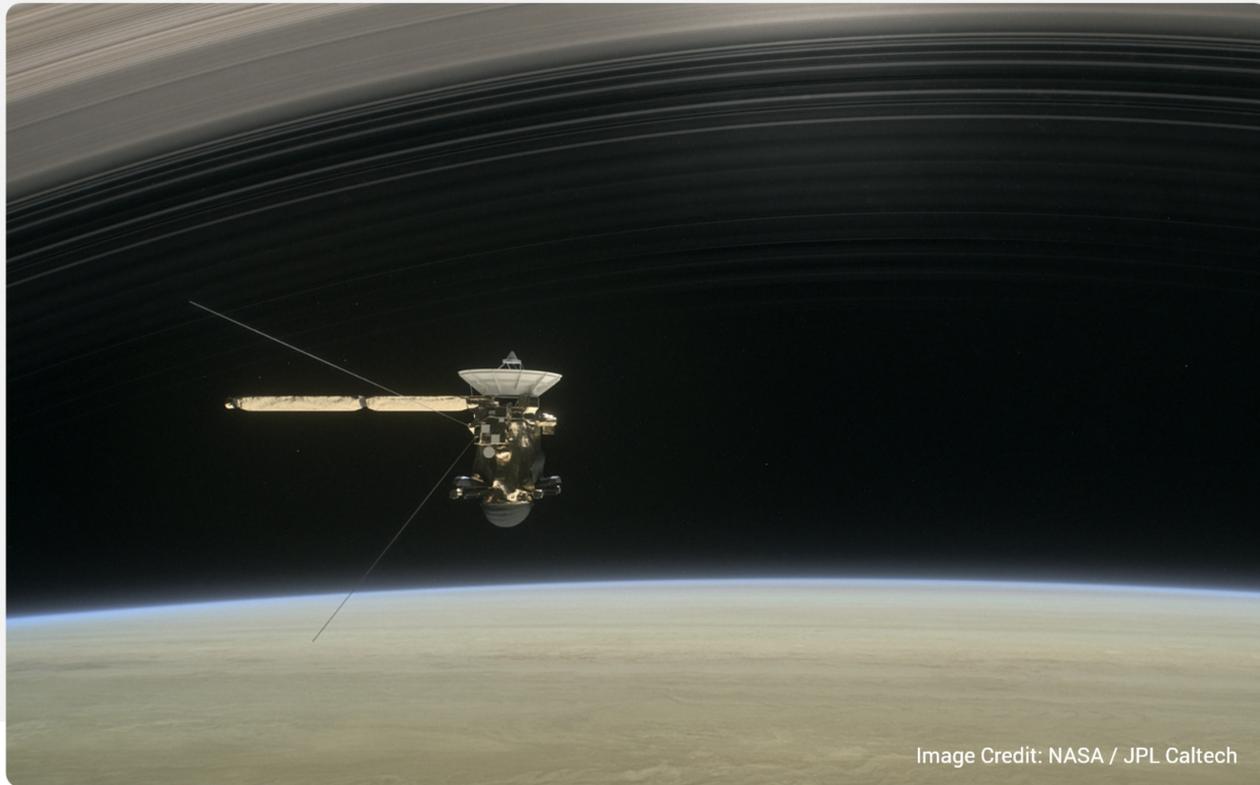


Image Credit: NASA / JPL Caltech

On Sept. 15, 2017, the Cassini spacecraft made its final approach to the giant planet Saturn. But this encounter was like no other. This time, Cassini dived into the planet's atmosphere, sending science data for as long as its small thrusters could keep the spacecraft's antenna pointed at Earth. Soon after, Cassini burned up and disintegrated like a meteor.

September 2019



Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	Labor Day 2	3	4	2012 Dawn leaves protoplanet Vesta after its 14-month orbit. 5	6	7
1967 Surveyor 5 launches en route to the Moon. 8	9	2011 GRAIL twin spacecraft launch to explore the Moon's gravity. 10	11	1997 Mars Global Surveyor enters orbit. 12	2007 Mars Exploration Rover "Opportunity" descends into Victoria Crater. 13	14
2017 Cassini plunges into Saturn, ending its 20 year mission of discovery. 15	16	17	18	19	20	21
22	23	24	25	2006 Mars Exploration Rover "Opportunity" begins exploring Victoria Crater. 26	2006 The Dawn mission to asteroid Vesta and dwarf planet Ceres launches. 27	28
29	30					



Image Credit: NASA / JPL Caltech

In 1936, a team of Caltech students and researchers began rocket experiments at a rugged test site that grew to become JPL.

October 2019



Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1990 1 Ulysses spacecraft launches to study the Sun and its poles.	2	3	4	5
6	7	8	9	10	11	12
13	Columbus Day	14 1997 15 Cassini launches on a 6 1/2-year journey to Saturn.	16	17	18 1989 Galileo launches on a six-year journey to Jupiter.	19 1967 Mariner 5 flies by Venus.
20	21	22 2018 First Image of Mars from a CubeSat.	23	24 1998 Deep Space 1 launches to flight test advanced technologies.	25	26
27	28	29 1991 En route to Jupiter, Galileo makes the first flyby of an asteroid.	30 2018 Kepler Space Telescope retires.	31 Halloween JPL ANNIVERSARY		



Image Credit: NASA / JPL Caltech

Left: The computer room at Goldstone, during the Mariner 4 voyage to Mars.

Middle Top: A model of Mariner 4 which was launched on Nov. 28, 1964 providing the first close-range images of Mars.

Right Top: Too anxious to wait for the first processed image, employees from the Voyager Telecommunications Section attached the data strips side by side and hand colored the numbers in, like a paint-by-numbers picture.

Right Bottom: JPL's mission control room burst into celebration after receiving confirmation of InSight's successful landing on Mars.

November 2019



Sun	Mon	Tue	Wed	Thu	Fri	Sat
					2010 Goldstone's antenna goes back on-line after upgrades.	2018 Dawn mission ends
1973 Mariner 10 launches on a mission to Mercury and Venus.	4	2018 Voyager 2 enters interstellar space	6	1967 Surveyor 6 launches for its Lunar landing mission.	8	9
10	Veteran's Day	1980 Voyager1 flies by Saturn.	13	14	15	16
17	18	19	20	21	22	23
24	25	2011 "Curiosity," launches for Mars. 2018 InSight lands on Mars	27	1964 Mariner 4 launches with a destination of Mars. Thanksgiving Day	29	30



Image Credit: NASA / JPL Caltech

Left: Previously unseen details of a mysterious, complex structure within the Carina Nebula (NGC 3372) are revealed by this image of the "Keyhole Nebula," obtained with Hubble's Wide Field Planetary Camera 2.

Top right: The Hubble Space Telescope hovers at the boundary of Earth and space.

Bottom right: Shuttle astronauts install JPL's Wide Field and Planetary Camera 2, known as "The camera that saved Hubble," in December of 1993.

December 2019



Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	1993 Shuttle astronauts install JPL's WFPC2 in the Hubble Space Telescope. 2	3	1996 Mars Pathfinder launches, carrying a lander and instrumented rover. 4	5	6	2001 The U.S.-French Jason 1 oceanography satellite launches. 7
8	9	10	11	12	2013 The Wide-field Infrared Survey Explorer is reactivated to hunt for asteroids. 13	2009 The Wide-field Infrared Survey Explorer launches. 14
2010 Mars Odyssey becomes the longest serving spacecraft at Mars. 15	16	2012 The twin Gravity Recovery and Interior Laboratory satellites impact Earth's Moon. 17	1999 Two JPL instruments, launch aboard NASA's Terra satellite. 18	19	1999 The Active Cavity Irradiance Monitor Satellite launches. 20	21
22	23	24	Christmas Day 25	26	27	28
29	2000 En route to Saturn, Cassini flies by Jupiter. 30	31				