*Third rock from the Sun**

Isaiah 45:18-19 (18) For thus saith the LORD that created the heavens; **God himself that formed the earth and made it; he hath established it, he created it not in vain, he formed it to be inhabited:** I am the LORD; and there is none else.
(19) I have not spoken in secret, in a dark place of the earth: I said not unto the seed of Jacob, Seek ye me in vain: I the LORD speak righteousness, I declare things that are right.
We live in an impressive universe, in an impressive galaxy, in an impressive solar system, on an impressive planet, created by our impressive God, revealed to us by His impressive word, Please turn your Bibles to;
Genesis 2:1-3 (1) Thus the heavens and the earth were finished, and all the host of them.
(2 And on the seventh day God ended his work which he had made; and he rested on the seventh day from all his work which he had made.
(3) And God blessed the seventh day, and sanctified it: because that in it he had rested from all his work which God created and made.
Have you ever wondered why, all over the world, in civilization after civilization, we find people scheduling their lives based on a seven-day week? The origins of other units of time are easy to understand. For instance, a year is the amount of time it takes for the Earth to orbit the Sun. A day is the amount of time it takes for the Earth to make a complete rotation on its axis. A month is the approximate time between new moons (29.5 days). Seasons are determined based on an equinox or solstice. But no celestial, lunar, planetary movement or system accounts for a seven-day week. Our all-powerful God could have created the Universe in seven seconds, seven years, seven decades, or seven million years. But God's week of seven days,however, was given purposefully to man as a pattern to follow. This pattern has prevailed for

thousands of years. The Sun, Moon, and stars were given "for signs and seasons, and for days and years" (Genesis 1:14), but not for the week. The week was instituted specifically by our impressive God, based on His creative activity, turn with me to;

Exodus 20:9-11 (9) Six days shalt thou labour, and do all thy work:
(10) But the seventh day is the sabbath of the LORD thy God: in it thou shalt not do any work, thou, nor thy son, nor thy daughter, thy manservant, nor thy maidservant, nor thy cattle, nor thy stranger that is within thy gates:
(11) For in six days the LORD made heaven and earth, the sea, and all that in them is, and rested the seventh day: wherefore the LORD blessed the sabbath day, and hallowed it.

Some scoff at the idea that the entire universe came into existence in only six days. However, if I were allowed to question God, I might ask, why did He take so long? He could have spoken everything into existence in a moment, in the twinkling of an eye, as opposed to the theoretical billions of years. Just what is the universe? Uni: is a prefix meaning "of or only having one, a unicycle has one wheel." "Verse: is any of the short, numbered divisions of a chapter in the Bible." So, the one division; In the beginning God created the heaven and the earth (Genesis 1:1) *is the beginning of the universe. We live in an incredibly large Universe. While its outer limits have not been measured, it is estimated to be as much as 20 billion light-years in diameter. Distances expressed in light-years is the time it takes for light to cross that distance. Light would travel 11 million 160,000 thousand miles in one minute. Traveling at that speed, the moon is about 1 1/4 Light seconds from the earth. The sun is about 8.31 Light Minutes away from earth. There are an estimated one billion plus galaxies in the Universe and an estimated 25 sextillion stars. That number of stars would be 25 followed by 21 zero's. That's impressive, however, that's an estimate.*

With God it's quite different, our understanding is not His understanding, turn to;
Psalm 147:4-5 (4) He telleth the number of the stars; he calleth them all by their names.
(5) Great is our Lord, and of great power: his understanding is infinite.
The Milky Way galaxy could contain a trillion stars, and is so large that traveling at the speed of light would require 100,000 years to cross. Without doubt, this is a rather impressive galaxy. So large that in the series StarTrek, the starship Enterprise did not traverse between galaxies. The speed of light is impressive, but even light is a creation of God; And God said, Let there be light: and there was light (Gen 1:3). *How could there be light bathing the earth before the sun was created? Skeptics have long ridiculed the Biblical narrative over this point. This drives us to look more closely at the relevant data, both scientific and Biblical. Actually there are many sources of light, not just the sun. There are also many types of light, not just visible light. For instance, short-wave light includes ultraviolet light, X-rays, and others. Light is produced by friction, by fire, by numerous chemical reactions, as well as the nuclear reactions of atomic fission and fusion, which is believed to be occurring in the sun. It has been suggested when God said "let there be light", that light was the glory of God. This proposition has merit in scripture;* And the city had no need of the sun, neither of the moon, to shine in it: for the glory of God did lighten it, and the Lamb is the light thereof (Rev 21:23). *He created the earth to be inhabited which means He created everything necessary to make it so. The sun being an integral part of the whole, for without it the earth could not be inhabited. From;*
{The Greater Light to Rule the Day by Timothy Unruh
There has been much talk among evolutionary philosophers about the Earth being "just another planet revolving around "just another average star." Yet when the evidence to the

contrary is considered, it is clear that neither the Earth nor the Sun are insignificant or typical, and that the Sun is not just another "star" after all, but actually quite unique in the universe and that it ought not be classified as a star. When the Sun is compared to the stars, it truly stands out in its unique suitability as the light- and heat-giver for the Earth as an abode of life. It is a known fact that most stars produce visible light in only small proportions and are most intense in their output of lethal radiations like X-rays and gamma rays.

The Sun is unusual in the life-supporting spectrum of energy that it does provide. Another aspect of the Sun's uniqueness is its singularity. Over two-thirds of the stars are members of star systems containing two or more stars. If the Sun were a member of such a system, continually perturbed by the gravitational interplay of the neighboring stars, life on Earth would be precarious at best, given the drastic variations of tides, light, and heat it would experience. The Sun is unique in yet another way. Compared to most stars, its light and heat is steadfast, constant, and abiding. Many more of the stars are considerably variable in their output of light and heat. Most stars fluctuate greatly in the process of time, with output factors that range from 10 percent to 150,000 percent. Life on Earth could not endure such wild extremes of radiation. Furthermore, the vast majority of stars are smaller, cooler, dimmer, and less massive than the Sun. In addition to the Sun's unique intrinsic suitability to be the Earth's light- and heat-giver, the Earth itself is placed at the optimal distance from such an unusual "star" as our Sun. When seen in the broader context of the cosmos, the Sun can be clearly seen as a grand product of design, with a very special purpose, by an almighty and benevolent Creator who has revealed Himself and declared in His great foundational revelation: "In the beginning God created the heaven and the earth . . . and God made two great lights; the greater light to rule the day, and the lesser light to rule the night: He made the stars also" (Genesis

1:1,16). (Institute for Creation Research).} *Now turn to;*
Psalm 19:1-6 (1) [[To the chief Musician, A Psalm of David.]] The heavens declare the glory of God; and the firmament sheweth his handywork.
(2) Day unto day uttereth speech, and night unto night sheweth knowledge.
(3) There is no speech nor language, where their voice is not heard.
(4) Their line is gone out through all the earth, and their words to the end of the world. In them hath he set a tabernacle for the sun,
(5) Which is as a bridegroom coming out of his chamber, and rejoiceth as a strong man to run a race.
(6) **His going forth is from the end of the heaven, and his circuit unto the ends of it**: and there is nothing hid from the heat thereof.
For thousands of years mankind has studied the stars and their movements. The Mayan Indians were ancient astronomers whose knowledge of the movements of stars was astounding. However, today scientist have more advanced and different methods. According to NASA, {Many astronomical objects emit radio waves, but that fact wasn't discovered until 1932. Since then, astronomers have developed sophisticated systems that allow them to make pictures from the radio waves emitted by astronomical objects. Radio telescopes look toward the heavens at planets and comets, giant clouds of gas and dust, and stars and galaxies. By studying the radio waves originating from these sources, astronomers can learn about their composition, structure, and motion. Radio astronomy has the advantage that sunlight, clouds, and rain do not affect observations.} *Most stars are quite unstable, our sun being a notable exception. A star "dies" when it runs out of energy or catastrophically explodes in a nova or super nova. These remnants are expanding gas clouds, which are not coalescing into new stars. Expansion and coalescing are polar opposites.*

Thankfully the Creator of stars told us about the birth of stars on Day Four of Creation (Genesis 1:17). They were created for man's use and enjoyment, and to bring the Creator great glory (Psalm 19:1). He has also told us that sin's penalty affects all of creation and thus even stars "die." Turn to;
Romans 8:20-22 (20) For the creature was made subject to vanity, not willingly, but by reason of him who hath subjected the same in hope,
(21) Because the creature itself also shall be delivered from the bondage of corruption into the glorious liberty of the children of God.
(22) **For we know that the whole creation groaneth and travaileth in pain together until now.**
The whole creation means all of it, not only people but galaxies, stars and planets groan and travail under the curse pronounced by God as a result of sin in the Garden of Eden.
From; **{The Remarkable Re-Birth of Planet Earth**
by Henry Morris, Ph.D.
Man has long been aware that his world has a tendency to fall apart. Tools wear out, fishing nets need repair, roofs leak, iron rusts, wood decays, loved ones sicken and die, relatives quarrel, and nations make war.
This universal tendency toward decay and death seems obvious to everyday experience, but was only formalized as a law of science a little over a century ago. It is significant, therefore, that this principle has been noted in the Bible for thousands of years.
Of old hast thou laid the foundation of the earth: and the heavens are the work of thy hands. They shall perish, but thou shalt endure: yea, all of them shall wax old like a garment; as a vesture shalt thou change them, and they shall be changed. (Psalm 102:25-26), for the heavens shall vanish away like smoke, and the earth shall wax old like a garment, and they that dwell therein shall die in like manner. (Isaiah 51:6).
Heaven and earth shall pass away but my words shall not pass

away. (Matthew 24:35). This universal law of decay is considered today as among the most certain of all scientific principles. As the Second Law of Thermodynamics, or the Law of Increasing Entropy, it governs all natural processes. It is also called "Time's Arrow." As time goes on, the arrow points down! (Institute for Creation Research).**}**

It is only by God's creative grace that human creatures can think any thoughts at all, much less thoughts that are logical and relating to analysis enough to be called "scientific." In particular, the cause of our universe coming into being, and of its continuing to operate as it does, is a dynamic display of the Creator's wisdom. Then I beheld all the work of God, that a man cannot find out the work that is done under the sun: because though a man labour to seek it out, yet he shall not find it; yea further; though a wise man think to know it, yet shall he not be able to find it (Ecclesiastes 8:17).

There are certain things through science man has learned, like movements and composition of heavenly bodies, but the works of God, though a man think to know it, yet he shall not find it. Star formation remains a highly theoretical astrophysical process believed to give birth to new stars. But though a man think to know it, yet he shall not find it.

From; **{More Than a Rising Star by David F. Coppedge**

On his widely popular Cosmos science program in 1980, Carl Sagan described our paltry existence in pathetic terms: "We live on an insignificant planet of a humdrum star, lost in a galaxy, tucked away in some forgotten corner of a universe in which there are far more galaxies than people." Several developments since then have altered this perception dramatically.

First of all, earth's sun is not so humdrum. It belongs to a spectral class representing only 5% of all stars: a G2V yellow dwarf mainsequence variable. Many in this class pulsate much more radically than the sun, giving off deadly flares. Scientists know the sun goes through an 11-year activity cycle.

Flares and magnetic storms appear menacing through modern orbital observatories. Some flares and coronal mass ejections have topped the charts in recent years. Yet even these violent eruptions produce "little in the way of magnetic-field-related nonradiative heating." The energy of these magnetic storms escapes between the granules instead of heating the photosphere. As a result, the sun's heat output, or solar constant, has only varied by 6 one-hundredths of a percent during the entire observational period of 1974-2006.
M. S. Giampapa compared this behavior with other stars. The amount of variation in solar output is "about 10% less than the seasonal mean values, as measured over several seasons of observation, for even the most quiet solar-type stars." The sun is among the few solar-class stars with "immaculate photospheres," which places our sun in the upper echelon of all the stars.
We are located in a relatively safe position within the Milky Way. The sun's energy is tuned to the chemical reactions of vision and photosynthesis. The sun is a star among countless others, but in many respects it stands alone. It is the perfect lighthouse for the one planet that we know harbors life. (ICR)**}**
The solar system consists of the Sun, and its planets. The first planet from the Sun is Mercury, followed by Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto. Perhaps to understand how large the solar system is, one should consider the dwarf planet Pluto. The University of Tennessee has stated that; **{**Pluto, which was discovered in 1930, is but a dot of light in even the largest Earth-based telescopes. Pluto is 2/3 the size of Earth's moon but 1,200 times farther away, which makes viewing it's surface detail as difficult as trying to read the printing on a golf ball located thirty-three miles away.**}**
Even the Hubble Space Telescope can resolve only the largest features on Pluto's surface. However spacecraft Horizon's flyby came within 7,800 miles of Pluto sending spectacular pictures. Scientifically and Biblically the planet earth is unique in the

entire universe. A brief glance at the earth compared to all other known planets reveals many contrasts. Even from outer space, the earth stands in stark contrast to the other planets in our solar system. The earth is the only known planet with huge bodies of water. The mixture of gases found in the atmosphere is perfect for life. If it were much different, like too little oxygen, or too little carbon dioxide, or the atmospheric pressure were much higher or lower, life would cease to exist on earth. If the yearly average temperature on earth's surface changed very much, life on it would eventually roast or freeze. This change would upset the water-to-ice ratio and other critical balances, with disastrous results. If the earth rotated slower on its axis, all life would die in time, either by freezing at night because of lack of heat from the sun or by burning during the day from too much heat. Our "normal" earth processes are unique among our solar system and, according to what we know, in the entire universe. Altho the earth is amazing, it is not a permanent residence; For here have we no continuing city, but we seek one to come (Heb 13:14). *There's much to-do about the continuance of earth. Many have tried in vain to predict the end but all have failed. The word has revealed that no man knows, the angels do not know, and even the Son of God does not know when the end will come. God has reserved that information to Himself. And yet man will puff himself up and declare a time for the end only to his own embarrassment. And then there is the doctrine that the earth will not be destroyed but will only be scorched a little in preparation for a renewal. But what does scripture say?*

2Peter 3:10-12 (10) But the day of the Lord will come as a thief in the night; in the which the heavens shall pass away with a great noise, and the elements shall melt with fervent heat, the earth also and the works that are therein shall be burned up.

(11) Seeing then that all these things shall be dissolved, what

manner of persons ought ye to be in all holy conversation and godliness,
(12) Looking for and hasting unto the coming of the day of God, wherein the heavens being on fire shall be dissolved, and the elements shall melt with fervent heat?
If this means scorched, then why use terms like the heavens being on fire shall be dissolved! The elements shall melt with fervent heat! The earth and the works therein shall be burned up! However aside from these concerns, the most pressing question should be, what manner of persons should we be?
Are you guilty of something that is not approved by the word? Then STOP doing it because that is your reasonable service. Why be conformed to this world and lose your own soul?
Is there something you should be doing that you are not? Be a doer of the word and not a hearer only because that is your reasonable service. God's word is full of do's and don'ts and obedience to every them is within the realm of "reasonable service."
Slightly over two thousand years ago, while He was still on this third rock from the sun, Jesus established the ordinance of salvation so that every one could put Him on (Gal 3:27) *and escape the penalty of sin. No one has any proof that he is pardoned until he is baptized! It's where you are going that counts and it is an eternal decision based upon faith that is the effect of belief. Do you believe? Did it result in faith? By faith have you repented? If so, by faith come and confess the Lord Jesus Christ and be baptized into Him for remission of your sins. If one needs prayer, come as we gently persuade with song.*

This message approved by
Jack Warford
a minister for Christ

(CNN)It's traveled more than nine years to get there and it will only stay a few hours, but a small space probe already is revolutionizing the way we look at Pluto.
NASA's New Horizons spacecraft will be approximately 7,800 miles (12,500 kilometers) from Pluto's surface at 7:49 a.m. ET on July 14 -- Tuesday -- becoming the first spacecraft to do a flyby of the icy world.
It also will pass about 17,000 miles from Pluto's largest moon, Charon.

"The data is going to start raining down from the sky," Alan Stern, the mission's principal investigator told CNN Saturday in a phone interview.
The probe already is beaming back the best photos ever of Pluto and Charon.
"Pluto and Charon are both mindblowing," Stern said. "I think that the biggest surprise is the complexity we're seeing in both objects."
New Horizons will be traveling about 31,000 miles per hour (14 kilometers per second) during the main encounter, which will last about eight to 10 hours, NASA says.
The mission will complete what NASA calls the reconnaissance of the classical solar system, and it makes the U.S. the first nation to send a space probe to every planet from Mercury to Pluto. The probe has traveled more than 3 billion miles to reach Pluto.
Pluto on the horizon
Photos: Pluto on the horizon
Remarkable new details of Pluto's largest moon, Charon, are revealed in this image released on July 15.
The latest spectra analysis from New Horizons' Ralph instrument was released on July 15. It reveals an abundance of methane ice, but with striking differences from place to place across the frozen surface of Pluto.
NASA team members and guests count down to the spacecraft's approach to Pluto on July 14.
This image of Pluto was captured by New Horizons on July 13, about 16 hours before the moment of closest approach. The spacecraft was 476,000 miles from Pluto's surface.
The colors in this image of Pluto and Charon are exaggerated to make it easy to see their different features. (These are not the actual colors of Pluto and Charon, and the two bodies aren't really that close together in space.) This image was created on July 13, one day before New Horizons was to make its closest approach to Pluto.
This image of Pluto was captured by New Horizons on July 12. The spacecraft was 1.6 million miles from Pluto at the time.
New Horizons snapped this photo of Charon on July 12. It reveals a system of chasms larger than the Grand Canyon. The spacecraft was 1.6 million miles away when the image was taken.
New Horizons was about 3.7 million miles from Pluto and Charon when it took this image on July 8.
Do you see a heart on Pluto? This image was taken on July 7 by New Horizons when it was about 5 million miles from the planet. Look to the lower right, and you'll see a large bright area -- about 1,200 miles across -- that resembles a heart.
New Horizons took six black-and-white photos of Pluto and Charon between June 23 and 29. The images were combined with color data from another instrument on the

space probe to create the images above. The spacecraft was 15 million miles away when it started the sequence and 11 million miles when the last photo was taken.
Pluto is shown here along with Charon in images taken on June 25 and 27. The image on the right shows a series of evenly spaced dark spots near Pluto's equator. Scientists hope to solve the puzzle as New Horizons gets closer to Pluto.
New Horizons took a series of 13 images of Charon circling Pluto over the span of 6½ days in April. As the images were being taken, the spacecraft moved from about 69 million miles from Pluto to 64 million miles.
Look carefully at the images above: They mark the first time New Horizons has photographed Pluto's smallest and faintest moons, Kerberos and Styx. The images were taken from April 25 to May 1.
New Horizons used its color imager to capture this image of Pluto and Charon on April 9. This was the first color image taken by a spacecraft approaching Pluto and Charon, according to NASA. The spacecraft was about 71 million miles away from Pluto when the photo was taken.
In August 2014, New Horizons crossed the orbit of Neptune, the last planet it would pass on its journey to Pluto. New Horizons took this photo of Neptune and its large moon Triton when it was about 2.45 billion miles from the planet -- more than 26 times the distance between the Earth and our sun.
New Horizons captured this image of Jupiter and its volcanic moon Io in early 2007. On its way to Pluto, New Horizons snapped these photos of Jupiter's four large "Galilean" moons. From left is Io, Europa, Ganymede and Callisto.
A white arrow points to Pluto in this photo taken in September 2006 from New Horizons. The spacecraft was still about 2.6 billion miles from Pluto.
Pluto was discovered in 1930 but was only a speck of light in the best telescopes on Earth until February 2010, when NASA released this photo. It was created by combining several images taken by the Hubble Space Telescope -- each only a few pixels wide -- through a technique called dithering. NASA says it took four years and 20 computers operating continuously to create the image.
This was one of the best views we had of Pluto and its moon Charon before the New Horizons mission. The image was taken by the European Space Agency's Faint Object Camera on the Hubble Space Telescope on February 21, 1994.
A Hubble Space Telescope image of Pluto and its moons. Charon is the largest moon close to Pluto. The other four bright dots are smaller moons discovered in 2005, 2011 and 2012: Nix, Hydra, Kerberos and Styx.
New Horizons launched from Florida's Kennedy Space Center on January 19, 2006. The probe, about the size of a piano, weighed nearly 1,054 pounds at launch. It has seven instruments on board to take images and sample Pluto's atmosphere. After it completes its five-month study of Pluto, the spacecraft will keep going deeper into the Kuiper Belt.
When NASA's New Horizons spacecraft flew by Pluto in July 2015, it photographed what scientists are calling "bladed" terrain near the heart-shaped region of the dwarf planet. This 3-D image was created using two images taken about 14 minutes apart on July 14. The first image was snapped about 16,000 miles (25,000 kilometers) from Pluto and the second was taken when the spacecraft was 10,000 miles (about 17,000 kilometers) away. Break out your 3-D glasses for the best view.
The New Horizons team has discovered a chain of exotic mountains that are covered

in methane snow on Pluto. NASA released an image of the snow-capped mountains stretching across the dark expanse of Cthulhu on March 3.
NASA released a photo on February 4, 2015, of what it suspects is an image of floating hills on Pluto's surface. The hills are made of water ice and are suspended above a sea of nitrogen.
This image made in infrared light shows water ice is abundant on Pluto's surface. The image was created using two scans of Pluto made by the New Horizons spacecraft on July 14, when the probe was about 67,000 miles (108,000 kilometers) above Pluto.
This photo shows the the mountainous shoreline of Sputnik Planum. "The mountains bordering Sputnik Planum are absolutely stunning at this resolution," said New Horizons science team member John Spencer of the Southwest Research Institute. Read full caption.
*This image shows the layered interior walls of the planet's many craters. According to NASA, "layers in geology usually mean an important change in composition or event." However, NASA says the New Horizons team members do not know if they are seeing local, regional or global layering.
Most of the craters seen here lie within the 155-mile (250-kilometer)-wide Burney Basin. Learn more at NASA's website.*

This image shows how erosion and faulting has sculpted Pluto's icy crust into rugged badlands. The prominent 1.2-mile-high cliff at the top is part of a great canyon system that stretches for hundreds of miles across Pluto's northern hemisphere, NASA says. Learn more at NASA.gov.
Pluto's largest moon, Charon, in seen in enhanced color in this image taken by NASA's New Horizons spacecraft. The space probe took the image just before it made its closest approach on July 14. The image combines blue, red and infrared images to best highlight the moon's surface features. Charon is 754 miles (1,214 kilometers) across. The image was released on October 1.
Images from two instruments on New Horizons are combined in this photo to show Charon's cratered uplands at the top and a series of canyons. The bottom of the image shows rolling plains.
This composite of enhanced color images shows the striking differences between Pluto, lower right, and its largest moon, Charon. NASA says the color and brightness of the two

worlds have been processed identically to allow for direct comparison. Pluto and Charon are shown with approximately correct relative sizes, but their true separation is not to scale.
These photos show Pluto's variety of textures, including what NASA calls "rounded and bizarrely textured mountains." The mountains are informally called the Tartarus Dorsa. This image shows about 330 miles (530 kilometers) of Pluto's terrain. It combines blue, red and infrared images taken by the space probe's Ralph/Multispectral Visual Imaging Camera. The images were taken on July 14, during the probe's flyby. They were released on September 24.
The photos taken by New Horizons just before its closest approach to Pluto on July 14 are the sharpest images to date of Pluto's varied terrain. This high-resolution image reveals details of two ice mountains. The image spans 75 miles (120 kilometers) of Pluto's surface.
This image of the surface of Pluto was taken just 15 minutes after NASA's New Horizon spacecraft made its closest approach to the icy planet on July 14. As it looked toward the Sun, the spacecraft's camera captured more than dozen thin layers of haze in Pluto's atmosphere, at least 60 miles (100 kilometers) above the surface. The photo was downlinked to Earth on September 13.
This image of Pluto's icy and mountainous landscapes was taken from a distance of 11,000 miles (17,700 kilometers). "This image really makes you feel you are there, at Pluto, surveying the landscape for yourself," said New Horizons Principal Investigator Alan Stern of the Southwest Research Institute in Colorado. This picture is a synthesis of new high-resolution images downlinked from New Horizons. The broad icy plains have been nicknamed Sputnik Planum. This image is from a perspective above Pluto's equatorial area. Astronomers began downlinking a data dump from the space craft over Labor Day weekend, September 5 to 7.
Scientists say that what looks like mountains could be huge blocks of frozen water suspended in frozen nitrogen. On the new photos, taken on July 14 and released on September 10, a pixel is 400 meters (440 yards). New Horizons' closest pass by Pluto took it about 50,000 miles from the surface.
Pluto's landscape has lots of variety: plains, mountains, craters and what looks like they might be dunes. The smallest details on the photos are about half a mile wide. The area with the craters is ancient, scientist say. The smooth frozen planes are relatively young.
Just before its closest approach to Pluto on July 14, NASA's New Horizons spacecraft snapped this photo of Charon, Pluto's largest moon. The photo was shot at a distance of 290,000 miles away. Charon's north pole region is markedly dark. This photo was released on September 10.
This new image of Pluto is stunning planetary scientists. It shows the small world's atmosphere, backlit by the sun. NASA says the image reveals layers of haze that are several times higher than predicted. The photo was taken by the New Horizons spacecraft seven hours after its closest approach to Pluto on July 14. New Horizons was about 1.25 million miles from Pluto at the time.
Images taken of Pluto's heart-shaped feature, informally named Tombaugh Regio, reveal a "vast, craterless plain that appears to be no more than 100 million years old," NASA said July 17. The frozen region "is possibly still

being shaped by geologic processes." NASA's New Horizons spacecraft was launched in 2006 and traveled 3 billion miles to the dwarf planet.
Close-up images of a region near Pluto's equator revealed a giant surprise: a range of youthful mountains. NASA released the image on July 15.
Remarkable new details of Pluto's largest moon, Charon, are revealed in this image released on July 15.
The latest spectra analysis from New Horizons' Ralph instrument was released on July 15. It reveals an abundance of methane ice, but with striking differences from place to place across the frozen surface of Pluto.
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moon Triton when it was about 2.45 billion miles from the planet -- more than 26 times the distance between the Earth and our sun.
New Horizons captured this image of Jupiter and its volcanic moon Io in early 2007.
On its way to Pluto, New Horizons snapped these photos of Jupiter's four large "Galilean" moons. From left is Io, Europa, Ganymede and Callisto.
A white arrow points to Pluto in this photo taken in September 2006 from New Horizons. The spacecraft was still about 2.6 billion miles from Pluto.
Pluto was discovered in 1930 but was only a speck of light in the best telescopes on Earth until February 2010, when NASA released this photo. It was created by combining several images taken by the Hubble Space Telescope -- each only a few pixels wide -- through a technique called dithering. NASA says it took four years and 20 computers operating continuously to create the image.
This was one of the best views we had of Pluto and its moon Charon before the New Horizons mission. The image was taken by the European Space Agency's Faint Object Camera on the Hubble Space Telescope on February 21, 1994.
A Hubble Space Telescope image of Pluto and its moons. Charon is the largest moon close to Pluto. The other four bright dots are smaller moons discovered in 2005, 2011 and 2012: Nix, Hydra, Kerberos and Styx.
New Horizons launched from Florida's Kennedy Space Center on January 19, 2006. The probe, about the size of a piano, weighed nearly 1,054 pounds at launch. It has seven instruments on board to take images and sample Pluto's atmosphere. After it completes its five-month study of Pluto, the spacecraft will keep going deeper into the Kuiper Belt.
When NASA's New Horizons spacecraft flew by Pluto in July 2015, it photographed what scientists are calling "bladed" terrain near the heart-shaped region of the dwarf planet. This 3-D image was created using two images taken about 14 minutes apart on July 14. The first image was snapped about 16,000 miles (25,000 kilometers) from Pluto and the second was taken when the spacecraft was 10,000 miles (about 17,000 kilometers) away. Break out your 3-D glasses for the best view.
The New Horizons team has discovered a chain of exotic mountains that are covered in methane snow on Pluto. NASA released an image of the snow-capped mountains stretching across the dark expanse of Cthulhu on March 3.
NASA released a photo on February 4, 2015, of what it suspects is an image of floating hills on Pluto's surface. The hills are made of water ice and are suspended above a sea of nitrogen.
This image made in infrared light shows water ice is abundant on Pluto's surface. The image was created using two scans of Pluto made by the New Horizons spacecraft on July 14, when the probe was about 67,000 miles (108,000 kilometers) above Pluto.
This photo shows the the mountainous shoreline of Sputnik Planum. "The mountains bordering Sputnik Planum are absolutely stunning at this resolution," said New Horizons science team member John Spencer of the Southwest Research Institute. Read full caption.
This image shows the layered interior walls of the planet's many craters. According to NASA, "layers in geology usually mean an important change in

*composition or event." However, NASA says the New Horizons team members do not know if they are seeing local, regional or global layering.
Most of the craters seen here lie within the 155-mile (250-kilometer)-wide Burney Basin. Learn more at NASA's website.*

This image shows how erosion and faulting has sculpted Pluto's icy crust into rugged badlands. The prominent 1.2-mile-high cliff at the top is part of a great canyon system that stretches for hundreds of miles across Pluto's northern hemisphere, NASA says. Learn more at NASA.gov.
Pluto's largest moon, Charon, in seen in enhanced color in this image taken by NASA's New Horizons spacecraft. The space probe took the image just before it made its closest approach on July 14. The image combines blue, red and infrared images to best highlight the moon's surface features. Charon is 754 miles (1,214 kilometers) across. The image was released on October 1.
Images from two instruments on New Horizons are combined in this photo to show Charon's cratered uplands at the top and a series of canyons. The bottom of the image shows rolling plains.
This composite of enhanced color images shows the striking differences between Pluto, lower right, and its largest moon, Charon. NASA says the color and brightness of the two worlds have been processed identically to allow for direct comparison. Pluto and Charon are shown with approximately correct relative sizes, but their true separation is not to scale.
These photos show Pluto's variety of textures, including what NASA calls "rounded and bizarrely textured mountains." The mountains are informally called the Tartarus Dorsa. This image shows about 330 miles (530 kilometers) of Pluto's terrain. It combines blue, red and infrared images taken by the space probe's Ralph/Multispectral Visual Imaging Camera. The images were taken on July 14, during the probe's flyby. They were released on September 24.
The photos taken by New Horizons just before its closest approach to Pluto on July 14 are the sharpest images to date of Pluto's varied terrain. This high-resolution image reveals details of two ice mountains. The image spans 75 miles (120 kilometers) of Pluto's surface.
This image of the surface of Pluto was taken just 15 minutes after NASA's New Horizon spacecraft made its closest approach to the icy planet on July 14. As it looked toward the Sun, the spacecraft's camera captured more than dozen thin layers

of haze in Pluto's atmosphere, at least 60 miles (100 kilometers) above the surface. The photo was downlinked to Earth on September 13.
This image of Pluto's icy and mountainous landscapes was taken from a distance of 11,000 miles (17,700 kilometers). "This image really makes you feel you are there, at Pluto, surveying the landscape for yourself," said New Horizons Principal Investigator Alan Stern of the Southwest Research Institute in Colorado.
This picture is a synthesis of new high-resolution images downlinked from New Horizons. The broad icy plains have been nicknamed Sputnik Planum. This image is from a perspective above Pluto's equatorial area. Astronomers began downlinking a data dump from the space craft over Labor Day weekend, September 5 to 7.
Scientists say that what looks like mountains could be huge blocks of frozen water suspended in frozen nitrogen. On the new photos, taken on July 14 and released on September 10, a pixel is 400 meters (440 yards). New Horizons' closest pass by Pluto took it about 50,000 miles from the surface.
Pluto's landscape has lots of variety: plains, mountains, craters and what looks like they might be dunes. The smallest details on the photos are about half a mile wide. The area with the craters is ancient, scientist say. The smooth frozen planes are relatively young.
Just before its closest approach to Pluto on July 14, NASA's New Horizons spacecraft snapped this photo of Charon, Pluto's largest moon. The photo was shot at a distance of 290,000 miles away. Charon's north pole region is markedly dark. This photo was released on September 10.
This new image of Pluto is stunning planetary scientists. It shows the small world's atmosphere, backlit by the sun. NASA says the image reveals layers of haze that are several times higher than predicted. The photo was taken by the New Horizons spacecraft seven hours after its closest approach to Pluto on July 14. New Horizons was about 1.25 million miles from Pluto at the time.
Images taken of Pluto's heart-shaped feature, informally named Tombaugh Regio, reveal a "vast, craterless plain that appears to be no more than 100 million years old," NASA said July 17. The frozen region "is possibly still being shaped by geologic processes." NASA's New Horizons spacecraft was launched in 2006 and traveled 3 billion miles to the dwarf planet.
Close-up images of a region near Pluto's equator revealed a giant surprise: a range of youthful mountains. NASA released the image on July 15.
Remarkable new details of Pluto's largest moon, Charon, are revealed in this image released on July 15.
pluto's bladed terrian

New Horizons spots Pluto
Pluto from Hubble 2010
Pluto and Charon 1994
pluto and five moons
new horizons launched
12 things to know about Pluto
The probe gave scientists a scare on July 4 when they lost contact with it after a computer glitch at mission control at the Johns Hopkins University Applied Physics Laboratory in Laurel, Maryland.

"We did hit a speed bump," Stern said at a briefing on July 6. Some science data was lost, including images, he said.
Stern said on Saturday the probe is working fine.
"The spacecraft is performing flawlessly, so is the instrument suite and we are on schedule for arrival."
What will you see during the flyby? NASA says on its website there will be a few images before New Horizons flies through the Pluto system and a few more after the encounter. The images from the close encounter will be released on July 15 at 3 p.m. ET.
Why go to Pluto?
New Horizon's core science mission is to map the surfaces of Pluto and Charon, to study Pluto's atmosphere and to take temperature readings.
The spacecraft was launched on January 19, 2006, before the big debate started over Pluto's status as a planet. In August of that same year, the International Astronomical Union reclassified Pluto as a dwarf planet.
Signs of geology on Pluto

Signs of geology on Pluto 01:17
But Stern disagrees with the IAU's decision.
"We're just learning that a lot of planets are small planets, and we didn't know that before," Stern said in a NASA news release. "Fact is, in planetary science, objects such as Pluto and the other dwarf planets in the Kuiper Belt are considered planets and called planets in everyday discourse in scientific meetings."
New Horizons has seven instruments on board to help scientists better understand how Pluto and its moons fit in with the rest of the planets in our solar system.
The planets closest to our sun -- Mercury, Venus, Earth and Mars -- are rocky. Jupiter, Saturn, Uranus and Neptune are gas giants. But Pluto is different: Even though it is out beyond the gas giants, it has a solid, icy surface.
Pluto also is small, about the size of the United States, Stern said. Its largest moon, Charon, is about the size of Texas. Pluto also has four smaller moons: Nix, Hydra, Kerberos and Styx.
Even before its closest encounter with Pluto, New Horizons was giving scientists new details about the planet: Images taken during the approach showed a series a black spots near Pluto's equator, each hundreds of miles across.
Beyond Pluto
New Horizons looks like a gold foil-covered grand piano. It's is 27 inches (0.7 meters) tall, 83 inches (2.1 meters) long and 108 inches (2.7 meters) wide. It weighed 1,054 pounds (478 kilograms) at launch.
The probe won't orbit Pluto and it won't land. Instead, it will keep flying, heading deeper into the Kuiper Belt, a region that scientists think is filled with hundreds of small, icy objects.
"The universe has a lot more variety than we thought about, and that's wonderful," Stern said. "The most exciting discoveries will likely be the ones we don't anticipate."

Revised; 02082019
Ref. Why Seven Days? by Kyle Butt, M.A.
The message 'Third Rock' presented to; PineMt.AR June 2012/ WestvilleOk-Jan2017/PleasentViewOk-Feb2017/ PineMtAr-Feb2017/RinggoldTx-March2017