

COMETWATCH

Year of the Comet 2013

ARTICLE 1

Coming To A Telescope Near You... COMET PANSTARRS

BY TAMMY PLOTNER

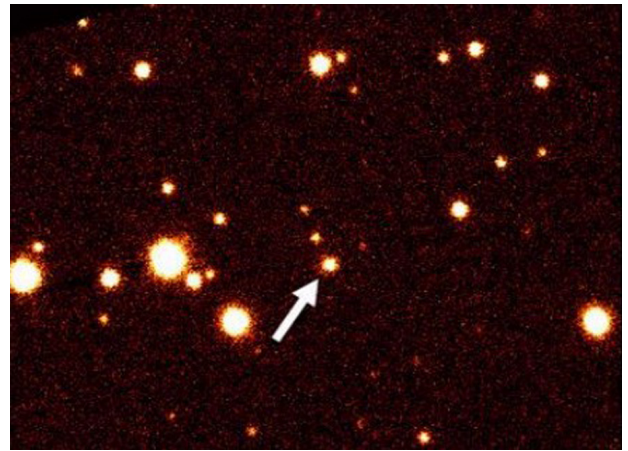
Tammy is a professional astronomy author, President Emeritus of Warren Rupp Observatory and retired Astronomical League Executive Secretary. She was the first woman astronomer to achieve Comet Hunter's Gold Status.

Right now, within the orbit of Mars and about 113 million miles away from the Sun, an icy traveler from the Oort Cloud is headed our way. Although it poses absolutely no threat to Earth, Comet C/2011 L4 (PANSTARRS) may become an incredible sight for both backyard and professional telescopes around the world. PANSTARRS' journey through the solar system could be one of the greatest celestial sights of the decade, or it could end in disappointment. Right now, it's too early to be sure—but never give up hope!

On the night of June 5, 2011, the Pan-STARRS (Panoramic Survey Telescope And Rapid Response System) 1 telescope on Haleakala, Maui, spotted a dim, moving ball of frozen gases and dust. Researchers confirmed the object was officially a comet, and named it PANSTARRS for the telescope that discovered it. In Cambridge, Massachusetts, The Minor Planet Center at the Smithsonian Astrophysical Observatory began calculating a preliminary orbit for PANSTARRS, which estimated the comet's closest approach to the Sun, called its perihelion, will occur on March 10, 2013.

At that time, the comet will be about 34 million miles from the Sun and about 118 million miles from Earth. According to theorists, this means the comet could increase in magnitude about 14 times - or become about 300,000 times brighter than it is now.

For now, astronomers can't predict exactly what will happen, because Comet PANSTARRS is still so distant. But come this Spring, all eyes will be turned towards the skies as PANSTARRS reaches perihelion and puts on a good show for Southern Hemisphere observers. After it swings around the Sun, it should become visible to Northern Hemisphere observers before dawn. You'll be able to spot it low on the eastern horizon with its tail pointed straight up. Get your telescopes and binoculars ready, because PANSTARRS is on its way...



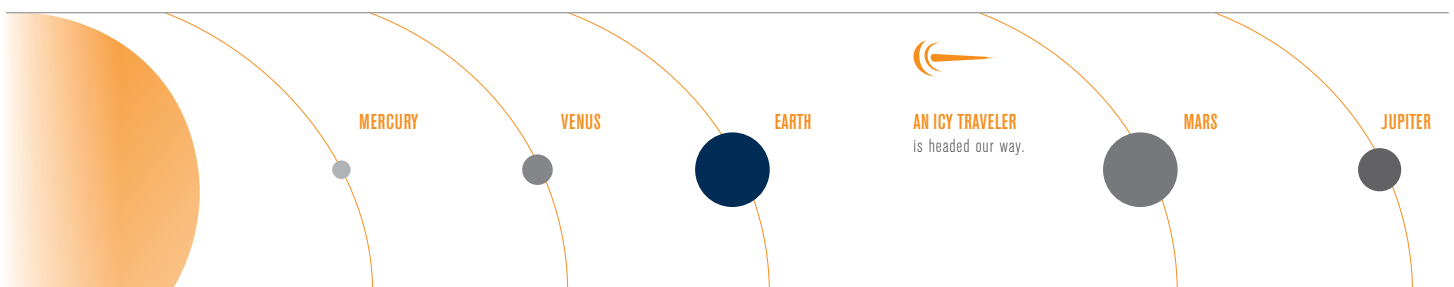
The Pan-STARRS 1 telescope in Hawaii captured the first image of Comet C/2011 L4 (PANSTARRS).

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All eyes will be turned towards the skies...

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COMETWATCH 113 MILLION MILES AWAY FROM THE SUN:



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How to View COMET PANSTARRS

BY TAMMY PLOTNER

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Comet PANSTARRS won't pass by Earth until this spring, but it's already showing some unusual properties. Researchers have observed a bright halo of material surrounding the comet, a signal that it's actively producing dust. This is great news for backyard astronomers, since dust and ice are what contribute to comets' beautiful, long tails!

If these early observations hold true, PANSTARRS should dazzle the eye as it passes around the Sun. Its tail could stretch across a swatch of sky the size of your hand! Of course, the question on everyone's mind is, "When can I see Comet PANSTARRS?"



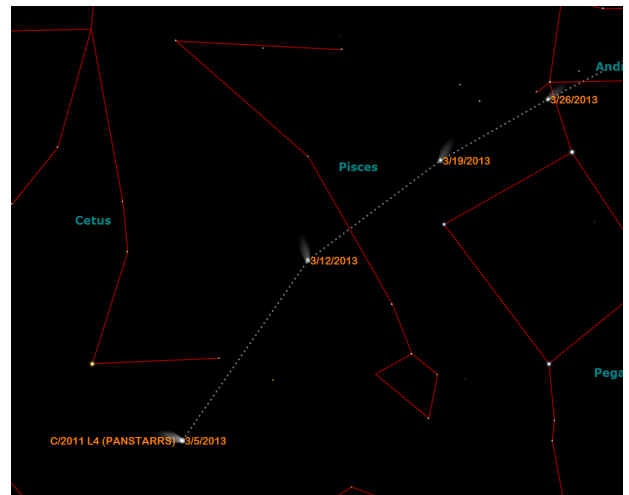
When can I see Comet PANSTARRS?



Southern Hemisphere Observers

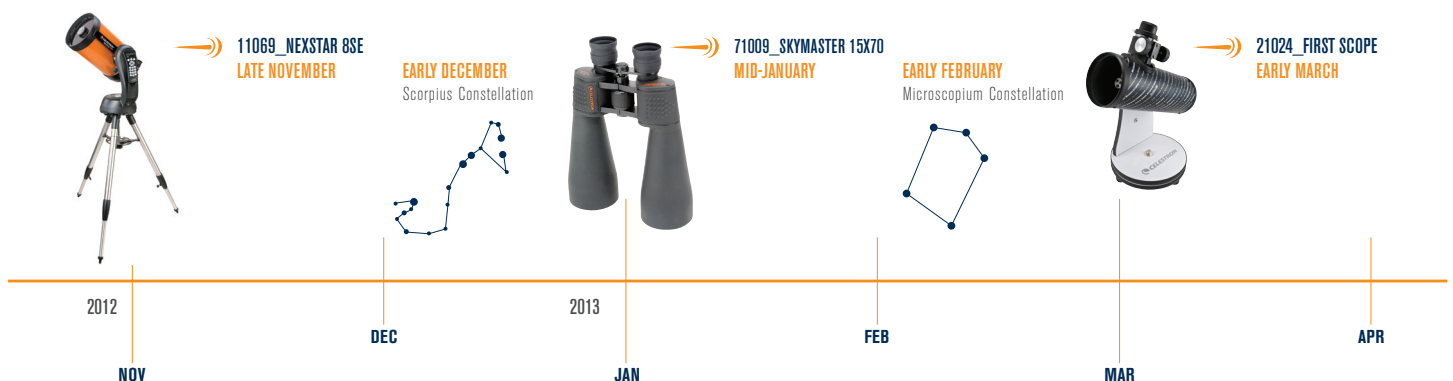
Starting in late November, the comet will be visible with telescopes of about 8 inches and larger, like the Celestron NexStar 8SE. Observers south of the equator will find it hanging around the early evening constellations of Lupus and Scorpius. As it continues towards the Sun, it will begin a brightening trend, slightly gaining brightness every few days. By early December, PANSTARRS will be in the middle of the constellation of Scorpius and shine about as bright as an average galaxy. The real excitement begins in January 2013. By mid-month, PANSTARRS will have journeyed into the Scorpius/Corona Australis border, dancing in the skies for Southern Hemisphere observers at magnitude 8! This puts the comet's visibility well within reach of amateur telescopes like the AstroMaster 130EQ or NexStar SLT 102. Larger binoculars like the SkyMaster 15x70 will also provide good views of the comet.

In early February, PANSTARRS reaches the southernmost point in its journey and will appear to change directions in the night sky. The brightening trend continues to speed up so that by mid-February, Comet PANSTARRS should be an unaided eye "fuzzy" located in the vicinity of the southern constellation of Microscopium. As it dives toward the Sun, it will move into the constellation of Pisces, easily visible in the Southern Hemisphere without optical aid. It should be about as easy to spot as major stars, so even observers in urban areas can spot it. PANSTARRS passes closest to Earth on March 5th just slightly more distant than the Earth is from the Sun. Finally, on March 10th, it makes a close pass around the Sun, known as perihelion. At this point, the comet will be less than a third of the distance between the Earth and Sun.



In early March, city observers will observe PANSTARRS as it passes through the constellation Pisces. Image courtesy TheSkyX/Software Bisque.

COMETWATCH TIMELINE FOR VIEWING A BRIGHT COMET WITH A 2° + TAIL:



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Northern Hemisphere Observers

By early March, Comet PANSTARRS begins to get exciting for observers in the Northern Hemisphere! If you live at very low latitude, such as near the equator, chances are the comet should be visible to you around March 15th. It will be low on the sunset horizon in the constellation of Pisces.

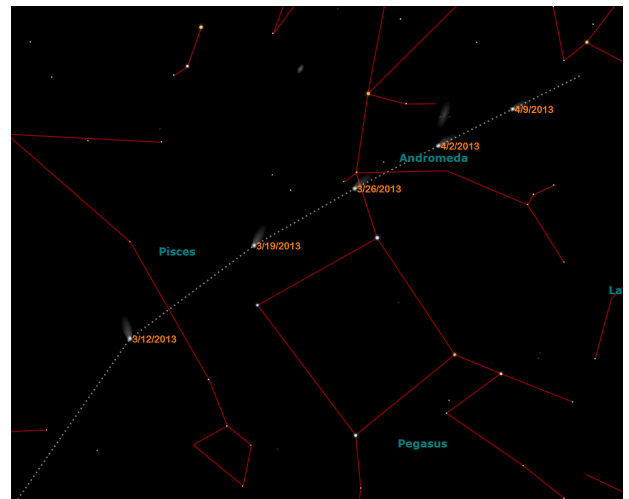
If predictions hold true, Comet PANSTARRS will then take off toward the northern constellations and become visible to viewers in the United States. By March 20th, it reaches the edge of the border between Pisces and Andromeda, still bright enough to spot with the naked eye. Of course, it will appear even more dazzling in a telescope like our SkyProdigy 130, NexStar SLT 130, or LCM 90.

As it moves further away from the Sun, and passes through the constellation Andromeda, Comet PANSTARRS will begin dimming slightly each night. By the beginning of April, it will have faded significantly, becoming dimmer than the Andromeda Galaxy, but still very visible in small telescopes like the FirstScope or TravelScope 70. You will also be able to view the comet with SkyMaster or UpClose binoculars. However, don't delay your observations because the Moon will interfere by mid-month!

At the beginning of May, the Moon will be absent from the early evening skies and you'll find the comet located about two hand spans above the north/northwest horizon after sunset in the Cassiopeia/Cepheus region. By now, it's dimming fast and will require larger binoculars or mid-sized telescopes for observation. Finally, at the end of May, PANSTARRS reaches the northernmost point in its journey and will require a larger telescope to be seen.

Bye, bye PANSTARRS? Not quite. Although the comet continues to fade more and more each night, it will also become circumpolar. This is good news for observers! In early June, you'll be able to catch the comet either after sunset in the north/northwest or in the north/northeast before sunrise. At the beginning of June 2013, PANSTARRS will be a faint, fuzzy object in the Ursa Minor region. If you have a larger telescope like our CGE PRO 1400 HD, you should be able to continue to follow the comet for at least another two months.

No matter where you are or what kind of equipment you have, you can enjoy PANSTARRS voyage through the solar system. But even as PANSTARRS fades away, a bigger and brighter comet begins its journey across the night sky—Comet ISON!



By March 20th, Northern Hemisphere observers will glimpse PANSTARRS between Pisces and Andromeda. Image courtesy TheSkyX/Software Bisque.

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