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Hubblecast 129: Hubble's Collection of Anniversary Images	Visual notes
<p>00:00-00:49 Each year, the NASA/ESA Hubble Space Telescope dedicates a small portion of its precious observing time to taking a special anniversary image, focused on capturing particularly beautiful and meaningful objects. These images continue to challenge scientists with exciting new surprises and to enthral the public with ever more evocative observations.</p> <p>To celebrate Hubble's 30th anniversary, let's look back at the beauty and science behind each of the anniversary images unveiled as of 2005. In this video, we will also unveil the very special 2020 Hubble Space Telescope 30th anniversary image.</p>	
<p>00:50-00:55 Intro Screen</p>	
<p>00:55-01:46 For its 15th anniversary, NASA and ESA released new views of two of the most well-known images Hubble has ever taken.</p> <p>A new Eagle Nebula image revealed a tall, dense tower of gas being sculpted by ultraviolet light from a group of massive, hot stars.</p>	

And a new Whirlpool Galaxy image showcased the spiral galaxy's classic features, from its curving arms, where newborn stars reside, to its yellowish central core that is home to older stars.



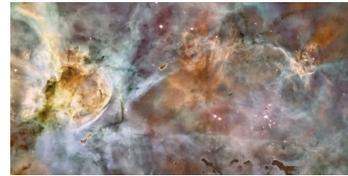
01:47-02:18

For its sweet sixteen, Hubble celebrated with a beautiful mosaic image of the magnificent starburst galaxy, Messier 82. It was the sharpest wide-angle view ever obtained of M82, a galaxy remarkable for its webs of shredded clouds and flame-like plumes of glowing hydrogen blasting out from its central regions.



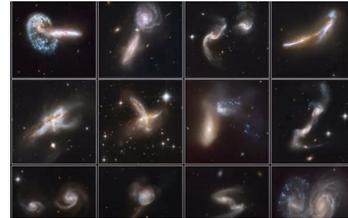
02:19-03:02

In 2007, Hubble featured one of the largest panoramic images it has ever taken: a 50 light-year-wide view of the tumultuous central region of the Carina Nebula. The colourful landscape is sculpted by the action of outflowing winds and scorching ultraviolet radiation from the monster stars that inhabit this inferno. These stars are shredding the surrounding material that is the last vestige of the giant cloud from which the stars were born.



03:03-03:42

The telescope's 18th birthday was marked by the release of the largest collection of Hubble images ever released to the public simultaneously. Fifty-nine new images of colliding galaxies revealed a variety of intricate structures. Some featured dramatic collisions that trigger bursts of star formation, and others highlighted stealthy mergers that result in new galaxies.



03:43-04:26

In 2009, Hubble photographed a peculiar system of galaxies known as Arp 194. This interacting group contains several galaxies, along with a "cosmic fountain" of stars, gas and dust that stretches over 100 000 light years. This system was likely disrupted by a previous collision or close encounter, as the shapes of all the galaxies involved have been distorted by their gravitational interactions with each other.



04:27-05:02

To commemorate two decades in orbit, Hubble highlighted a small portion of one of the largest observable regions of starbirth in the galaxy, the Carina Nebula. The image captured the chaotic activity atop a pillar of gas and dust, three light-years tall, which is being eaten away by the brilliant light from nearby bright stars.



05:03-05:41

A galactic rose celebrated 21 years of Hubble: an especially photogenic group of interacting galaxies called Arp 273. The larger of the spiral galaxies, known as UGC 1810, has a disc that is tidally distorted into a rose-like shape by the gravitational pull of the companion galaxy below it, known as UGC 1813.

**05:42-06:23**

In 2012, Hubble observed the raucous stellar breeding ground 30 Doradus, which is also the brightest star-forming region in our galactic neighbourhood and home to the most massive stars ever seen. The nebula resides 170 000 light-years away in the Large Magellanic Cloud, a small, satellite galaxy of our Milky Way. This image is a staggering 650 light-years across.

**06:23-07:00**

To celebrate its 23rd year in orbit, Hubble captured a new view of its anniversary image from 2001 and one of the most distinctive objects in our skies: the Horsehead Nebula. This image showed the nebula in a whole new light, capturing plumes of gas in the infrared and revealing a beautiful, delicate structure that is normally obscured by dust.

**07:01-07:32**

24 years was marked by a beautiful image of part of NGC 2174, also known as the Monkey Head Nebula. This colourful region is filled with young stars embedded within bright wisps of cosmic gas and dust, located about 6400 light-years away in the constellation of Orion.

**07:33-08:07**

Marking a quarter-century of operation, Hubble unveiled a glittering tapestry of young stars flaring into life in a special image that aptly resembled an exploding shell in a fireworks display. The sparkling centrepiece of this vibrant anniversary fireworks is a giant cluster of about 3000 stars.

**08:08-08:41**

In 2016, Hubble captured in stunning clarity what looks like a gigantic cosmic soap bubble. The object, known as the Bubble Nebula, is in fact a cloud of gas and dust illuminated by the brilliant star within it. The vivid portrait of this dramatic scene allowed us to fully appreciate the almost perfectly symmetrical shell which gives the nebula its name.

**08:42-09:13**

Next, Hubble featured a pair of spiral galaxies known as NGC 4302 — seen edge-on — and NGC 4298. Both located 55 million light-years away, the telescope brilliantly captured their warm stellar glow and brown, mottled patterns of dust.



09:14-09:58

This colourful cloud of glowing interstellar gas is just a tiny part of the Lagoon Nebula, a vast stellar nursery, and this 2018 Hubble image is one of the public's favourites. Observed using the telescope's optical and infrared instruments, this nebula is a region full of intense activity, with fierce winds from hot stars, swirling chimneys of gas, and energetic star formation all embedded within a hazy labyrinth of gas and dust.



09:59-10:30

Last year, in 2019, Hubble captured a colourful view of the Southern Crab Nebula, twenty years after its first observation of the object. This peculiar nebula, which exhibits nested hourglass-shaped structures, was created by the interaction between a red giant and a white dwarf.



10:31-11:35

And now we have come to the Hubble Space Telescope's highly anticipated 30th anniversary image.

The image is one of the most photogenic examples of the many turbulent stellar nurseries Hubble has observed during its 30-year lifetime. These regions are dominated by the glow of stars at least 10 times as massive as our Sun. These stars have short lives of only a few million years, compared to the 10-billion-year lifetime of our Sun. In this Hubble portrait, the giant nebula, NGC 2014, and its neighbour, NGC 2020, are part of a vast star-forming region in the Large Magellanic Cloud, a satellite galaxy of the Milky Way located roughly 162 000 light-years away.



11:36-11:48

We look forward to more milestones and new beautiful images from Hubble in the years to come!



Ends 11:48