Special Feature

Panoramic View of a Turbulent Star-Forming Region

By NASA's Amazing Space reporters
April 2012

30 Doradus, located in the Southern Hemisphere in the heart of the Tarantula Nebula, is the brightest, nearby star-forming region and home to the most massive stars in our cosmic neighborhood.

The region resides 170,000 light-years away in the Large Magellanic Cloud, a small, satellite galaxy of our Milky Way.

This new image of 30 Doradus is one of the largest mosaics ever assembled from Hubble Space Telescope images. Astronomers made the image from observations taken by Hubble's Wide Field Camera 3 and the Advanced Camera for Surveys. NASA and the Space Telescope Science Institute are releasing this picture to celebrate Hubble’s 22nd anniversary.

Many images taken over Hubble’s lifetime have helped expand our view of the cosmos, allowing us to

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better understand our universe and our place in it. From its lofty perch above Earth’s atmosphere, Hubble sees farther and sharper than any previous telescope. The observatory has taken more than a million images of over 34,500 celestial objects.

What’s in a name?
In this image, 30 Doradus glows with the brilliant light of stars. Sky watchers who first spotted 30 Doradus hundreds of years ago, however, thought they were seeing the light from a single star. The star was catalogued as 30 Doradus. “Doradus” comes from the constellation Dorado, the star’s home. Dorado is located in the Southern Hemisphere. The word “dorado” is the Spanish name for dolphin-fish or swordfish.

In 1751, French astronomer Nicholas Lacaille gazed through his spyglass at 30 Doradus and realized that it was a gaseous region, or nebula. Lacaille described the center of 30 Doradus as looking like a small comet. In the 1800s, British astronomer Sir John Herschel viewed 30 Doradus and described it as one of the most extraordinary objects in the sky.

Stars bursting to life
Today, astronomers are still fascinated with 30 Doradus. They have used Hubble many times over its 22 years orbiting Earth to view the nebula’s breathtaking gaseous landscape. The nebula is close enough to Earth that Hubble can resolve individual stars, giving astronomers important information about the stars’ birth and evolution. Many small galaxies have more spectacular starbursts, but 30 Doradus is close enough to Earth that astronomers can study it in detail.

The constellation Dorado

The image reveals a fantasy landscape of pillars, ridges, and valleys. Dotting that landscape are millions of stars. This image shows the story of stellar evolution. 30 Doradus has been a star-forming factory, creating stars at a furious pace for millions of years. This Hubble view shows concentrated regions of star formation, called star clusters. These particular clusters range in age from about 2 million to about 25 million years old.

Looking to the future
Astronomers will continue to use Hubble and other telescopes to study the universe. Like detectives searching for clues to a crime, astronomers are hunting for evidence to solve the next cosmic mystery. ★
Prominent star clusters in 30 Doradus

A. “Hodge 301” star cluster

Locations of enlarged areas in 30 Doradus

Star clusters are concentrated regions of star formation. The clusters in these enlarged images range in age from about 2 million to about 25 million years old.

B. Stellar core of 30 Doradus

ALL IMAGES: NASA, ESA, and D. Lennon (ESA/STScI)
Star clusters “C” (boxed) and “D” (central area of image)

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