

Hubble views grand star-forming region

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Credit: NASA, ESA, and F. Paresce (INAF-IASF, Bologna, Italy), R. O'Connell (University of Virginia, Charlottesville), and the Wide Field Camera 3 Science Oversight Committee

(PhysOrg.com) -- This massive, young stellar grouping, called R136, is only a few million years old and resides in the 30 Doradus Nebula, a turbulent star-birth region in the Large Magellanic Cloud, a satellite galaxy of the Milky Way. There is no known star-forming region in the

Milky Way Galaxy as large or as prolific as 30 Doradus.

Many of the diamond-like icy blue stars are among the most massive stars known. Several of them are 100 times more massive than our sun. These hefty stars are destined to pop off, like a string of firecrackers, as supernovas in a few million years.

The image, taken in ultraviolet, visible and red light by Hubble's [Wide Field Camera 3](#), spans about 100 light-years. The nebula is close enough to Earth that Hubble can resolve individual stars, giving astronomers important information about the stars' birth and evolution.

The brilliant stars are carving deep cavities in the surrounding material by unleashing a torrent of ultraviolet light, and hurricane-force stellar winds (streams of charged particles), which are etching away the enveloping [hydrogen gas](#) cloud in which the stars were born. The image reveals a fantasy landscape of pillars, ridges, and valleys, as well as a dark region in the center that roughly looks like the outline of a holiday tree. Besides sculpting the gaseous terrain, the brilliant stars can also help create a successive generation of offspring. When the winds hit dense walls of gas, they create shocks, which may be generating a new wave of star birth.

These observations were taken Oct. 20-27, 2009. The blue color is light from the hottest, most massive stars; the green from the glow of oxygen; the red from fluorescing hydrogen.

Provided by JPL/NASA

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