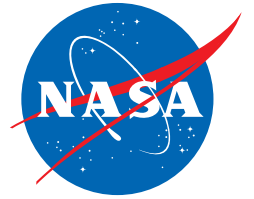


# Lagoon Nebula (M8)

National Aeronautics and  
Space Administration



# Hubble Captures the Turbulent Heart of the Lagoon Nebula

The image on the front of this lithograph shows the heart of the Lagoon Nebula (M8), an example of a turbulent stellar nursery full of birth and destruction. This region has been producing new stars for millions of years. The young stars seen in this image represent the current wave of star birth.

A young monster star called Herschel 36 is illuminating the region near the center of the image. Roughly 200,000 times brighter than our Sun, the star's intense ultraviolet radiation and stellar winds (streams of subatomic particles) have eroded the surrounding gas and dust, carving out a cavity bathed in starlight (shown in blue and yellow). The stellar winds from Herschel 36 also create some glowing arc-like features called bow shocks around many smaller stars, including a star located in the green area below center, left.

Small, dark, pillars called "elephant trunks" represent dense gas and dust that are resistant to erosion by the star's searing ultraviolet light and stellar winds, and may serve as incubators for fledgling stars.

The mammoth star is very active because it is young by stellar standards, only 1 million years old. Based on its high mass, it will only live for several million more years. In contrast, our less massive Sun will continue to shine for a few billion years.

Herschel 36, however, isn't the only hefty star creating havoc in this region. Another massive star located beyond the top of the image is also unleashing powerful energy that is pushing dust away in curtain-like sheets (the dark material just below center).

The stellar nursery won't be around forever. Each new batch of stars blows away some of the gas and dust needed to generate further star birth. In about 50 million years, all of the gas will dissipate, and star formation will end.

The Lagoon Nebula resides about 4,000 light-years away in the constellation Sagittarius.

This image celebrates the Hubble Space Telescope's 28th anniversary.

*Credit: NASA, ESA, and STScI*

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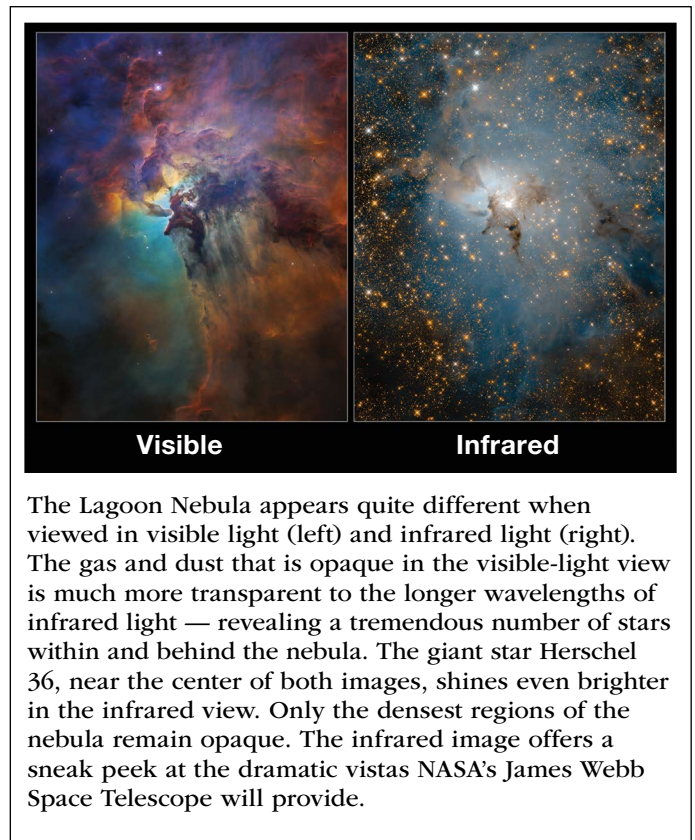
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## VOCABULARY

**Nebula:** A cloud of gas and dust located between stars and/or surrounding stars. Nebulas are often places where stars form.

**Ultraviolet (UV) radiation:** Electromagnetic radiation with shorter wavelengths, higher energies, and higher frequencies than visible light. UV light is lower in energy than X-rays.

**Stellar wind:** Streams of charged particles flowing from a star at millions of miles (or kilometers) per hour.



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