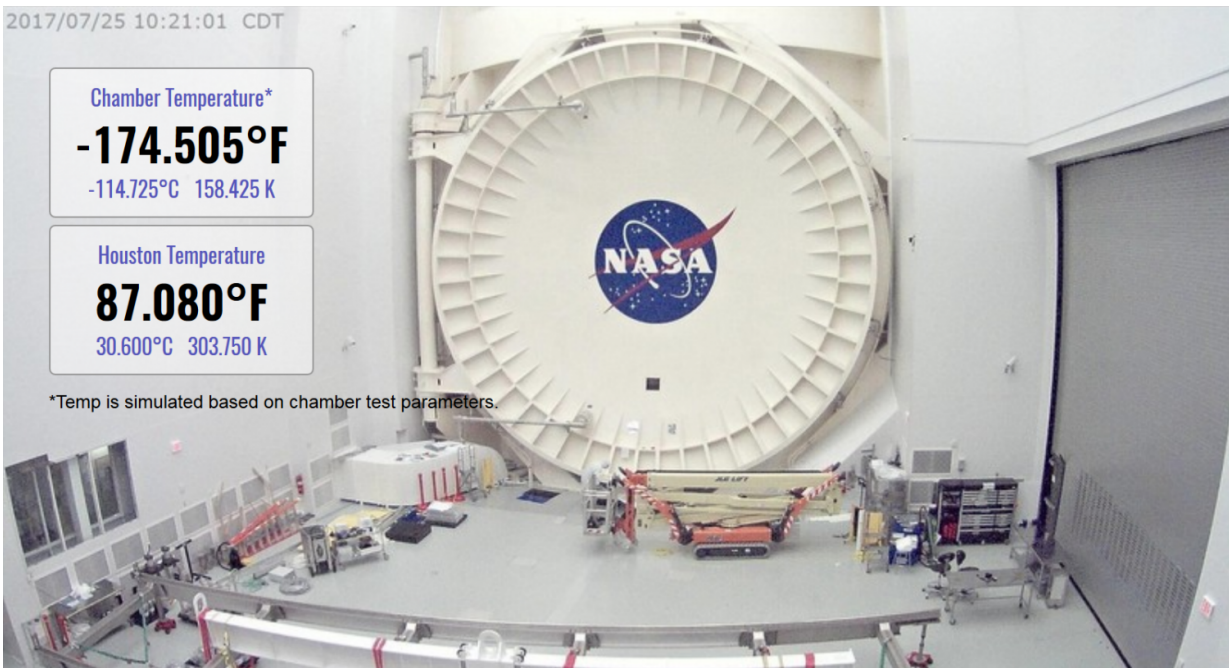


# NASA's webbcam shows Webb telescope chilling in Chamber A

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The new Webbcam overlay displays the temperatures in Houston and in Chamber A, in degrees Fahrenheit, degrees Celsius, and on the Kelvin scale. Credit: NASA/Steve Sabia

The temperature of Chamber A at NASA's Johnson Space Center in Houston is steadily dropping, creating a frigid environment for NASA's James Webb Space Telescope that is in stark contrast to the heat of the city.

You can view this contrast yourself by checking out the new temperature overlay on the Webbcam. With the Webb telescope locked away inside Chamber A, you won't see Webb itself on the Webbcam for several months. Now, however, you can see how the [chamber](#)'s temperature compares to that of Houston.

The temperature of the Chamber A will continue to steadily drop until it reaches about 20 kelvins (minus 424 degrees Fahrenheit/minus 253 degrees Celsius), but it will take a little while longer for the Webb telescope and its instruments to reach the same temperatures they will be when operating in space.

The telescope and its instruments must transfer their heat to the surrounding [liquid nitrogen](#) and cold gaseous helium shrouds in Chamber A to achieve their operating temperature of about 37 kelvins (minus 393 Fahrenheit/ minus 236 Celsius). Because the Webb telescope's mid-infrared [instrument](#) (MIRI) must be kept colder than the other research instruments, it relies on a cryocooler to lower its [temperature](#) to less than 7 kelvins (minus 447 degrees Fahrenheit/minus 266 degrees Celsius).

In space, the telescope must be kept extremely cold in order to be able to detect the infrared light from very faint, distant objects. To protect the telescope from external sources of light and heat (like the sun, Earth and moon), as well as from heat emitted by the observatory, a five-layer, tennis court-sized sunshield acts like a parasol that provides shade. The sunshield separates the observatory into a warm, sun-facing side (reaching temperatures close to 185 degrees Fahrenheit/85 degrees Celsius) and a cold side (minus 400 degrees Fahrenheit/minus 240 degrees Celsius). The sunshield blocks sunlight from interfering with the sensitive [telescope](#) instruments.

Provided by NASA's Goddard Space Flight Center

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