

# World's most expensive space telescope captures the moment two galaxies are about to collide

Another stunning new image sent back from the world's most expensive space telescope, the James Webb Space Telescope, shows the moment two galaxies are about to collide.

A stunning new image from the James Webb Space Telescope shows two galaxies on the verge of colliding. The pair, called Arp 107, are located 465 million light-years from Earth and have been pulled into strange shapes by the gravitational forces of their interaction, but it's not entirely destructive. The collision is also creating new stars, with scores of young stars being born in the swirling clouds of dust and gas.



The image above is a composite image, combining data from the James Webb Near Infrared Camera (NIRCam) and Mid Infrared Instrument (MIRI). These two instruments operate in different parts of the infrared, so they can capture different data processes. Data collected in the near infrared is shown in white, highlighting older stars and the gaseous band running between the two galaxies. Data in the mid-infrared is shown in orange and red, highlighting the busy star-forming regions, with bright young stars emitting large amounts of radiation.

If you look at the MIRI data alone, you can see features like the glow of the supermassive black hole at the center of the galaxy on the right. While the black hole itself can't be seen directly, the dust and gas swirling around its event horizon tend to heat up and glow brightly as the black hole moves.



The swirls of star formation give this image a similar look to the Cartwheel Galaxy, which is also a galaxy undergoing an interaction. These interactions or collisions can reshape galaxies, and have a complex relationship with star formation rates.

While there was plenty of star formation before, collisions between galaxies can compress gas, improving the conditions needed to form more stars. On the other hand, as data from James Webb have revealed, collisions also disperse a lot of gas, potentially depriving new stars of the material they need to form.

The Arp 107 galaxy pair will continue to merge for hundreds of millions of years and eventually become a single galaxy.

You finished reading the article "**World's most expensive space telescope captures the moment two galaxies are about to collide**" edited by the [TipsMake](#) team. We hope this article has provided you with many useful tech tips and tricks. You can search for similar articles on tips and guides. Thank you for reading and for following us regularly.