



Chandra Science Highlight

X-ray Panorama of Galactic Center



Chandra X-ray Observatory ACIS image

Scale: Image is 4.8 arc min across

Distance Estimate: About 26,000 light years

This image of a 900 x 400 light year swath of the center of the Galaxy was constructed from a mosaic of 88 Chandra observations. Low (1-3 keV), intermediate (3-5 keV) and high (5-8 keV) energy X-rays are represented by red, green and blue colors respectively.

- Permeating the region is a diffuse haze of X-ray light from hot gas. This gas has been heated to millions of degrees by winds from massive young stars, supernovas and outflows powered by Sagittarius A* (Sgr A*), the supermassive black hole in the center of the galaxy, which is located inside the extended bright region in the center of the image.
- Scattered throughout the region are thousands of point-like X-ray sources. Most are likely produced by normal stars feeding materials onto the compact, dense remains of stars that have reached the end of their evolutionary trail – white dwarfs, neutron stars and black holes. The most luminous of these systems have produced the extended bright green-white regions to the left and right of the Galactic Center.

Credit: X-ray: NASA/CXC/UMass/D. Wang et al. Reference: M.P. Muno, et al., 2009 ApJS 181 110-128, S.P. Johnson et al, 2009, MNRAS 399, 1429

CXC operated for NASA by the Smithsonian Astrophysical Observatory

October 2009