Centaurus A: A nearby massive elliptical galaxy with an active galactic nucleus in the constellation Centaurus.

Credit: NASA/SAO/R.Kraft et al.

This stunning Chandra X-ray Observatory image of Centaurus A was the result of approximately 20 hours of observation. In addition to the bright central source – a suspected supermassive black hole – and the X-ray jet emanating from the core, more than 200 point-like X-ray sources were identified and studied. Because of their distribution around the center of the galaxy, it is believed that most of these point-like X-ray sources are X-ray binaries in which a neutron star or stellar-sized black hole is consuming matter from a nearby companion star. A diffuse cloud of hot X-ray producing gas that envelopes the central region can also be seen.

Scale: Image is 10 x 6 arcmin.

Chandra X-ray Observatory ACIS Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory