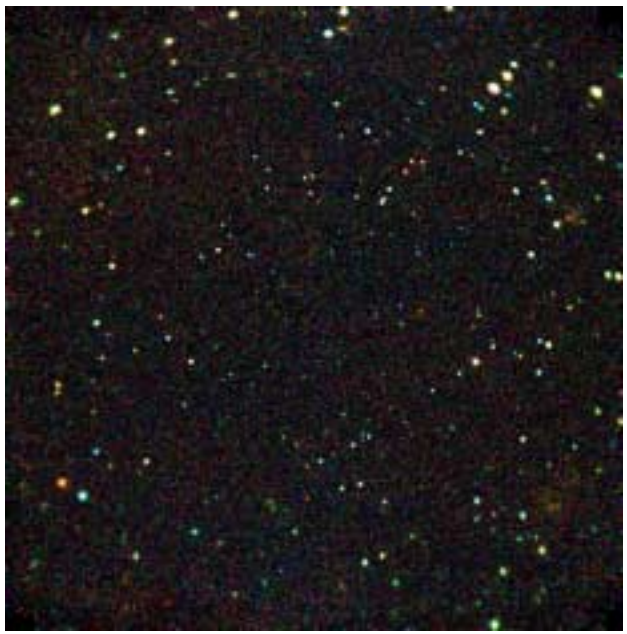
Chandra Science Highlights

Chandra Deep Field South: A one-million second image of an area of the sky located in the constellation Fornax



In this extremely deep X-ray exposure, some of the sources are 12 billion light years away. Most of the sources in the image are active galaxies and quasars powered by supermassive black holes, while others are galaxies, and groups and clusters of galaxies. The energy bands of the X-rays are color coded, with red representing lower energies, yellow intermediate, and blue the highest energies.

Credit: NASA/JHU/AUI/R. Giacconi et al.

Chandra X-ray Observatory ACIS Image

Scale: Image is 16 arcmin on a side

- 350 sources detected
- Faintest sources are at a flux ~3 x 10^{-17} erg/cm^2 sec
- Optical redshifts have been determined for 99 sources
- 10 sources are observed to be extended
- One source, with a redshift of z=3.7 has been identified as the best example yet of a Type II quasar, a quasar that is inconspicuous optically because it is shrouded in gas and dust.
- The Chandra Deep Field South image shows that supermassive black holes were much more active in the past than the present. Information from this image will help astronomers understand how dense clouds of gas form galaxies with massive black holes at their centers.