



**Chandra X-ray
Observatory Center**

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Abell 2597: A galaxy cluster located about one billion light years from Earth.
(Credit: X-ray: NASA/CXC/Michigan State Univ/M.Voit et al; Optical: NASA/STScI & DSS; H-alpha:
Carnegie Obs./Magellan/W.Baade Telescope/U.Maryland/M.McDonald)

Caption: A new Chandra study of over 200 galaxy clusters has helped determine how giant black holes at their centers affect the growth and evolution of their host galaxy. This study, which includes Abell 2597 shown here, revealed that an unusual form of cosmic precipitation enables a feedback loop of cooling and heating, stifling star formation in the middle of these galaxy clusters. This image of Abell 2597 contains X-rays from Chandra (blue), optical data from Hubble and the Digitized Sky Survey (yellow), and emission from hydrogen atoms (red) from the Walter Baade Telescope in Chile.

Scale: Image is 2 arcmin on a side (about 600,000 light years)

Chandra X-ray Observatory ACIS Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory
