



**Chandra X-Ray  
Observatory Center**

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**Whirlpool Galaxy (M51):** A pair of galaxies about 30 million light years from Earth.  
**Credit:** NASA/CXC/UMd./A.Wilson et al.

Chandra's image highlights the energetic central regions of the two interacting galaxies that are collectively called the Whirlpool Galaxy. A large number of point-like X-ray sources due to black holes and neutron stars can also be seen. The inset shows an expanded image of the central region of the larger galaxy, NGC 5194. Extending to the north and south of the bright nucleus are clouds of multimillion degree gas that are thought to be heated by high-velocity jets produced near a supermassive black hole in the nucleus of the galaxy. On the lower left is a faint source of X-rays produced by a shock wave from a rare type of supernova that was observed to explode in 1994.

**Scale:** Large image: 11.6'x10', Inset: about 1.6'x1.5'  
*Chandra X-ray Observatory ACIS Image*

*CXC operated for NASA by the Smithsonian Astrophysical Observatory*