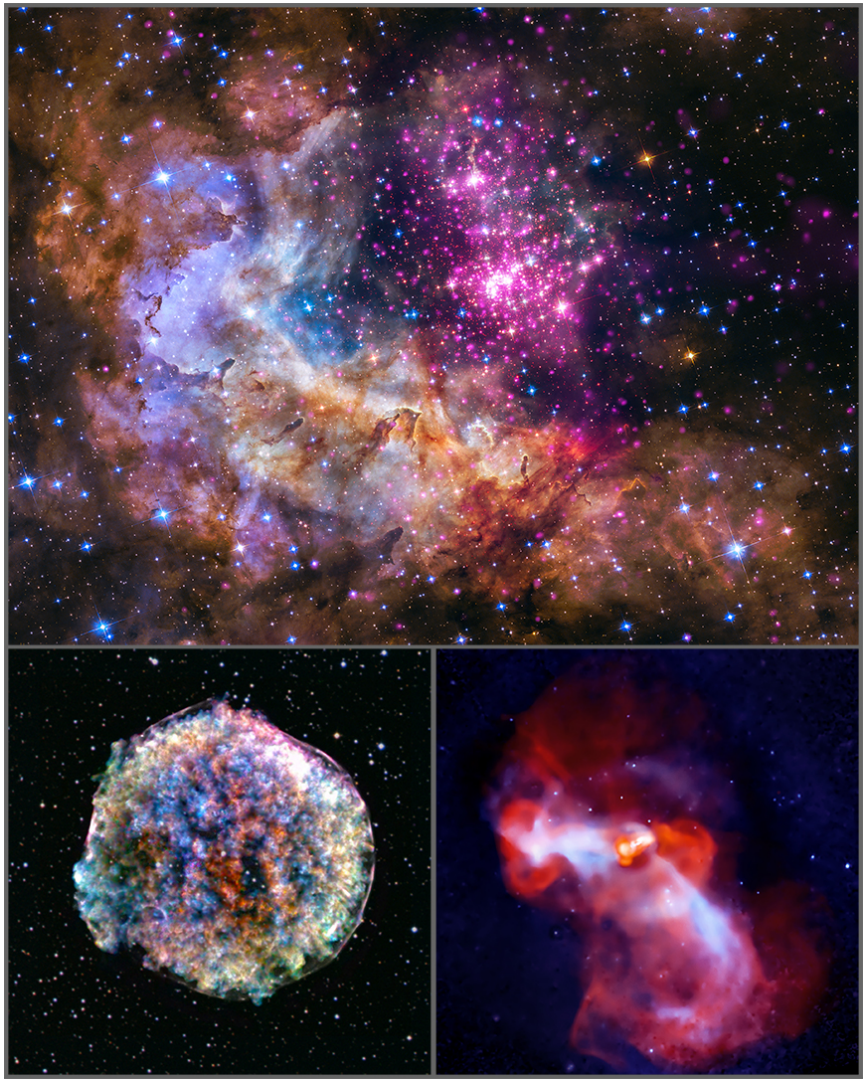
Chandra Science Highlight

"A New Data Sonification for Chandra"



- Since 2020, a "sonification" project, led by staff of NASA's Chandra X-ray Observatory and the Universe of Learning, has transformed astronomical data from some of the world's most powerful telescopes into sound.
- Sonification for three new objects — a star-forming region, a supernova remnant, and a black hole at the center of a galaxy — have been released.
- Each sonification adopts a different technique to translate the astronomical data into sound.
- Based on user testing, the full set of sonifications has been very positively received by both blind and visually impaired (BVI) and non-BVI audiences. https://chandra.si.edu/photo/2021/sonify4/

Distance estimates: About 20,000 light-years (Westerlund 2); 13,000 light-years (Tycho) and 50 million light-years (M87)

Credits: Sonifications: NASA/CXC/SAO/K.Arcand, SYSTEM Sounds (M. Russo, A. Santaguida). Westerlund2: X-ray (NASA/CXC/SAO/Sejong Univ./Hur et al), Optical (NASA/STScI); Tycho: NASA/CXC/RIKEN & GSFC/T. Sato et al (X-ray), DSS (optical); M87: X-ray (NASA/CXC/KIPAC/N. Werner, E. Million et al), Radio (NRAO/AUI/NSF/F. Owen).

Instrument: ACIS

Caption: The latest sonification installment features a region where stars are forming (Westerlund 2, upper image), the debris field left behind by an exploded star (Tycho's supernova remnant, lower left), and the region around arguably the most famous black hole (Messier 87*, lower right). Each sonification has its own technique to translate inaudible astronomical data into sounds that humans can hear. These three sonifications are being added to a collection of other objects that have been released since 2020.

The CXC is operated for NASA by the Smithsonian Astrophysical Observatory

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