The Focusing Optics X-ray Solar Imager (FOXSI) sounding rocket is a novel experiment to image hard X-rays (HXRs) from the Sun. FOXSI uses direct HXR focusing paired with finely segmented semiconductor detectors to produce HXR images and spectra, instead of traditional, indirect imaging techniques like that employed on the RHESSI spacecraft. The resulting superior sensitivity and imaging dynamic range for photons 4-20 keV can be used to perform true HXR flare imaging spectroscopy and to assess nanoflare contributions to coronal heating in active regions and the quiet Sun. FOXSI has completed two flights from the White Sands Missile Range, on 2012 November 2 and 2014 December 11. In each flight, the experiment observed the Sun for 6.5 minutes, including active regions, quiet regions, and flares. Here, we give an overview of the FOXSI instrument and its flights and show results on microflare imaging spectroscopy. We also discuss plans for the future, including a third flight of the rocket and a spacecraft concept.