Some asteroids in the main-belt (between Mars and Jupiter) are somehow able to eject dust like comets. This is a surprise, because most asteroids are thought to be rocky, and there is no known dynamical path linking the Kuiper belt or Oort cloud comet reservoirs to the asteroid belt. At first thought to be little more than novel objects (freaks), we are now using the active asteroids to address several basic issues in planetary science, including the origin of the oceans, the destruction of asteroids and the production of interplanetary dust.