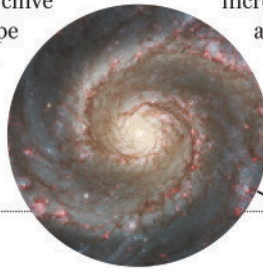


Long Live Hubble

Data from the space telescope will yield discoveries long after the instrument is kaput

With luck, the Hubble Space Telescope will yield more startling images of the cosmos for years. But because NASA is no longer servicing the telescope, it is expected to give up the ghost sometime after 2020. That does not mean that the Hubble discoveries will stop, however. NASA maintains an archive of data gathered over Hubble's lifetime—the telescope went live in 1991—and makes it available to the public for free. The archive has already yielded discov-

eries such as nebulae and distant galaxies. “The legacy is a treasure trove of data that can be mined in the future,” says Arfon Smith, who leads a new data-science initiative at Hubble's home, the Space Telescope Science Institute. “The data are incredibly valuable and still ridiculously useful.” The archive is a testament to the enduring value of big, basic science research—the data can pay off in ways astronomers cannot yet imagine. —Katie Peek

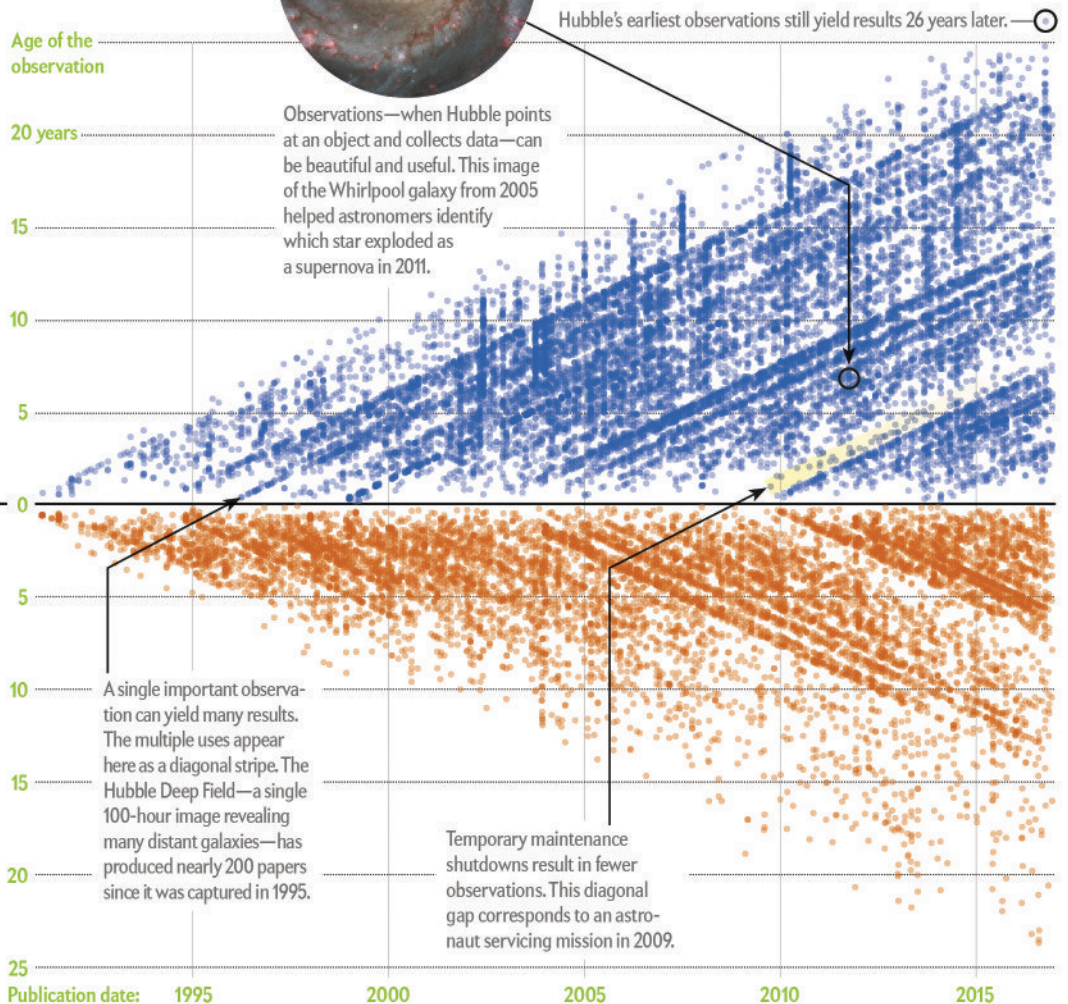


How to Read It
Each dot represents a Hubble observation referenced in a published paper.

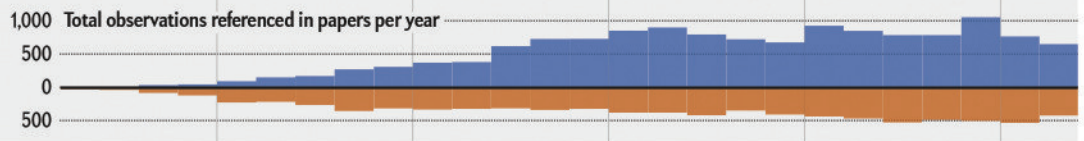
Blue dots (nearly 14,000) relate to Hubble's archive: instead of asking for new observations, the researcher answered a question using existing images.

Orange dots (nearly 9,000) relate to new data: a researcher makes a specific observation request to answer a question.

An additional 10,000 references to Hubble observations appeared in papers using a mix of the telescope's new and archival images. Data are current as of early December 2016.



After Hubble's eventual demise, results based on new data (orange) will disappear, but those based on the archives (blue) will continue.



SOURCE: BARBARA A. MIKULSKI ARCHIVE FOR SPACE TELESCOPES; SPACE TELESCOPE SCIENCE INSTITUTE. (DATA); HUBBLE HERITAGE TEAM. (STS/AURA) (galaxy)