

Astronomy®

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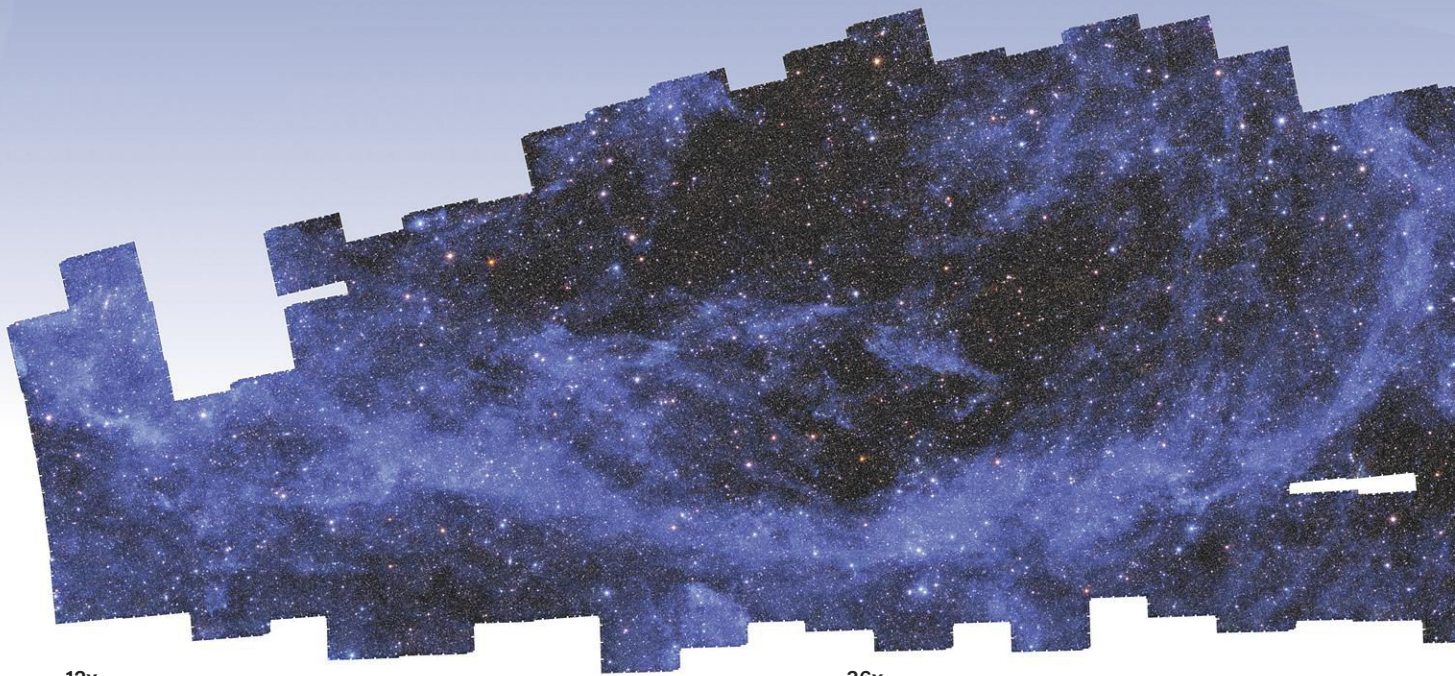
**HOW
WE
COULD
REALLY
DETECT**

ALIEN LIFE

PLUS

- BEST SHOTS OF THE COMET OF THE YEAR!
- EXPERIENCE THE EASTER ISLAND ECLIPSE
- TOP 10 WOMEN ASTRONOMERS
- EUCLID MISSION EXPLORES THE DARK UNIVERSE
- COMPLETE INFO ON SKY EVENTS TO WATCH

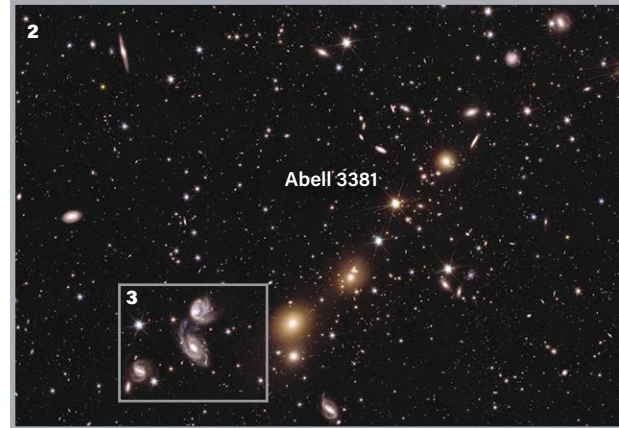
**BONUS
ONLINE
CONTENT
CODE p. 3**



12x



36x



Euclid captures

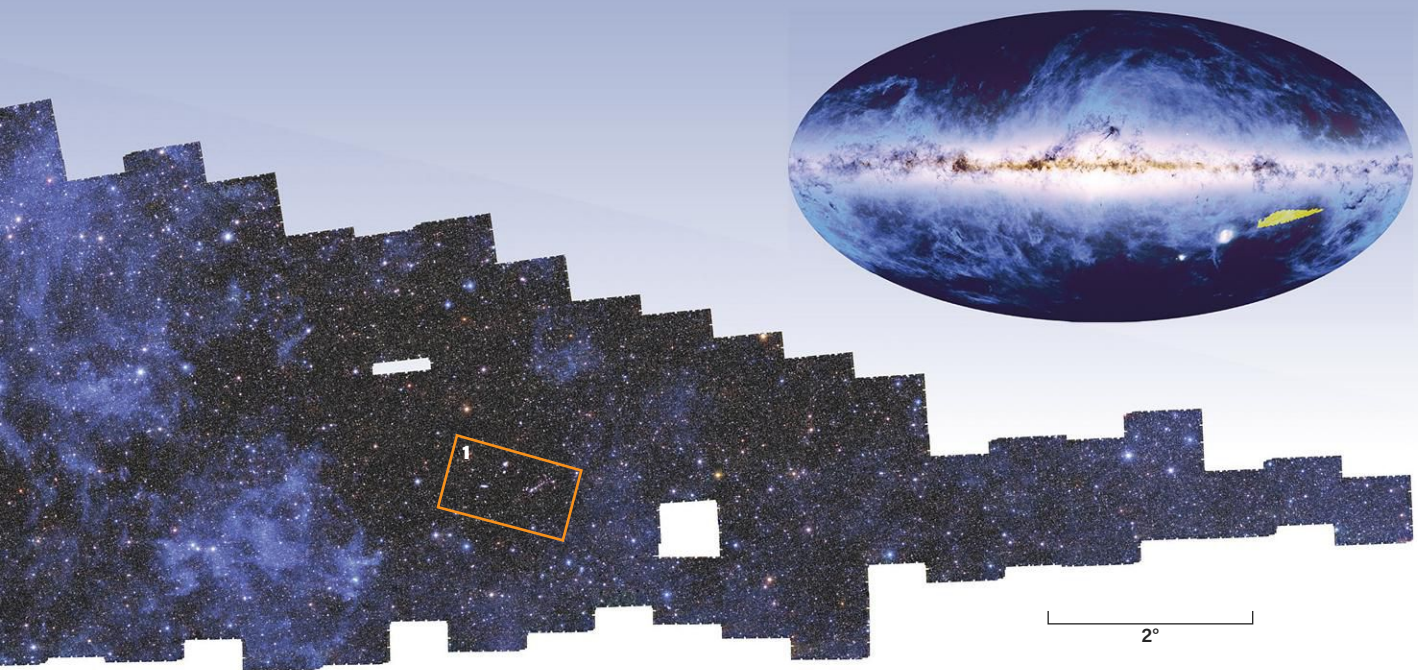
Europe's new space telescope will create a 3D map of the cosmos to explore the effects of dark energy. **BY KOREY HAYNES**

THE EUCLID SPACE OBSERVATORY launched July 1, 2023, from Cape Canaveral, Florida. Researchers tasked it with creating a 3D map of more than a third of the sky and surveying billions of galaxies up to 10 billion light-years away. In October of last year, scientists revealed the first page in its cosmic atlas, a mosaic comprising 208 gigapixels of data revealing billions of galaxies in awesome detail.

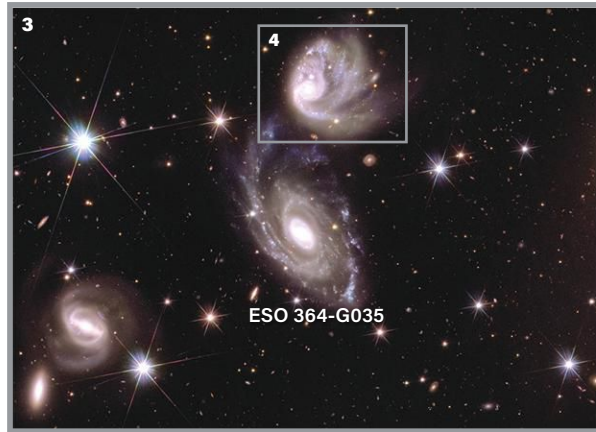
A project of the European Space Agency, Euclid scans the cosmos in visible and near-infrared light with a telescope aperture of 1.2 meters. Instruments include an infrared

spectrometer, which allows it to measure the composition and motions of targets in detail and reveal galaxies at a great distance, when the universe was in its childhood.

Euclid is meant to answer major cosmological questions about the makeup and evolution of the universe, but its huge and detailed view will also yield data on individual galaxies, star populations, supernovae, exoplanets, the dimmest brown dwarfs, and many examples of gravitational lensing, when distant objects are magnified by closer objects in line with them bending their light.



150x



600x



ESA

billions of galaxies

The mosaic released last October combines 260 observations containing some 14 billion galaxies, as well as tens of millions of individual stars closer to home.

In the series of crops shown above, the galaxy cluster Abell 3381 emerges from the depths of space with each zoom. It first appears as a tiny string of glowing beads on the right side at a magnification of 3x, and eventually fills the image at 36x. The cluster lies some 678 million light-years away.

At higher magnifications, a pair of interacting galaxies are highlighted, 420 million light-years from Earth. ESO 364-G035 and G036 are clawing at each other's outer layers, distorting the clearly resolved spiral arms.

The final image (600x), centered on G036, represents just 0.0003 percent of the original mosaic, which is itself only 1 percent of Euclid's full survey.

Only the beginning

When Euclid's six-year survey is complete, it will encompass more than a third of the celestial sphere, steering clear of the Milky Way's bright central regions and focusing on the darker parts of our sky. Euclid's final atlas will also contain deep-field regions similar to Hubble's famous images of the darkest, farthest, oldest corners of space.

The public can enjoy another 53 square degrees of Euclid's view of the sky released in March, including the mission's first deep-field imagery.

In the meantime, Euclid will continue its quiet contemplation of the cosmos' deepest mysteries. ♪

Korey Haynes is a science writer who enjoys the universe's colder side from her home in Minnesota.