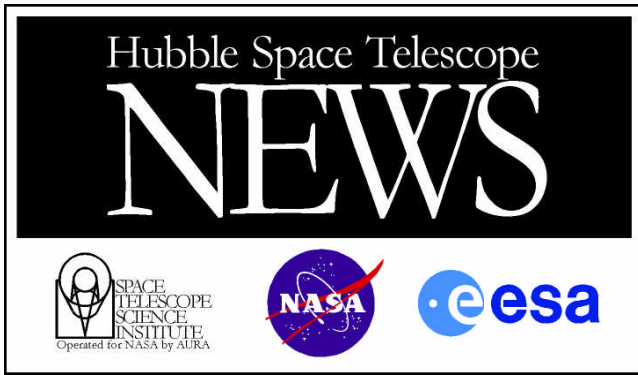


Hubble Deep Field South
Hubble Space Telescope • WFPC2

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HUBBLE DEEP FIELD SOUTH UNVEILS MYRIAD GALAXIES

A NASA Hubble Space Telescope view down a 12 billion light-year long corridor of space loaded with a dazzling assortment of thousands of never-before seen galaxies.

This picture is the culmination of a 10-day-long observation called the Hubble Deep Field South (HDF-S) which was carried out in October 1998 by a team of astronomers at the Space Telescope Science Institute (STScI) and the Goddard Space Flight Center.

This new “far-look” complements the original Hubble “deep field” taken in late 1995, when Hubble was aimed at a small patch of space near the Big Dipper. The new region is in the constellation Tucana, near the south celestial pole. This second “deep” observation confirms that the universe essentially looks the same in all directions.

Hubble’s sharp vision allows astronomers to sort galaxy shapes. The image is dominated by beautiful pinwheel-shaped disk galaxies, which are like our Milky Way. The picture also contains a variety of peculiar-shaped galaxies that are in collision with companion galaxies. Elliptical galaxies appear as reddish blobs. A sprinkling of foreground stars (belonging to our Milky Way) appear as bright points with “diffraction spikes” – an artifact of all telescope optics.

The colors in the pictures are a natural representation of the galaxies’ stellar populations. Blue corresponds to young hot stars. Red may indicate older stars, starlight scattered by dust, or very distant starlight has been stretched to redder wavelengths by the universe’s expansion.

Follow-up observations with large ground-based telescopes in the southern hemisphere will establish the distances to the galaxies. This will help astronomers understand the history of the universe because the galaxies represent the universe at different epochs, depending on their distances.

Credit: R. Williams (STScI) and the HDF-S Team, and NASA

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