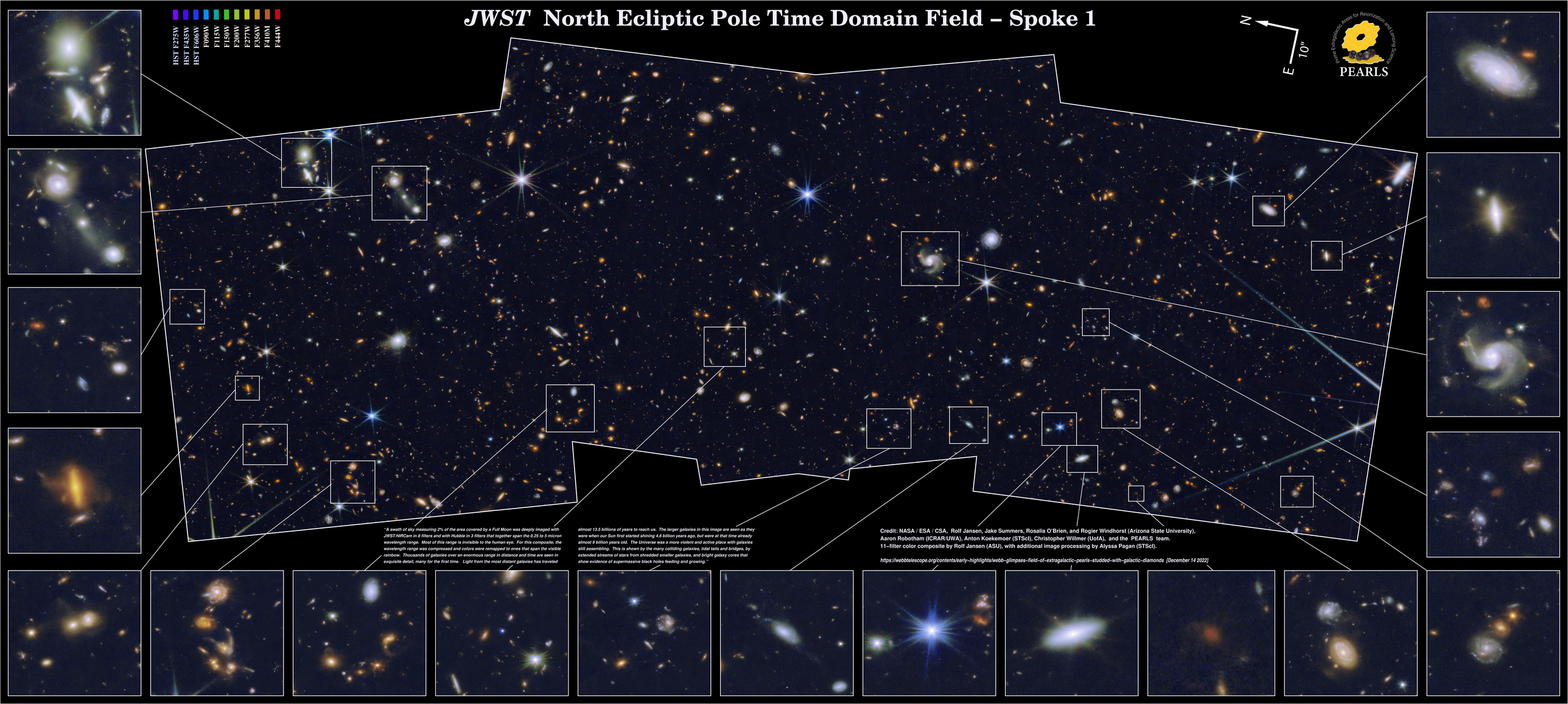
JWST North Ecliptic Pole Time Domain Field – Spoke 1



"A swath of sky measuring 2% of the area covered by a Full Moon was deeply imaged with JWST/NIRCam in 8 filters and with Hubble in 3 filters that together span the 0.25 to 5 micron wavelength range. Most of this range is invisible to the human eye. For this composite, the wavelength range was compressed and colors were remapped to ones that span the visible rainbow. Thousands of galaxies over an enormous range in distance and time are seen in exquisite detail, many for the first time. Light from the most distant galaxies has traveled almost 13.5 billions of years to reach us. The larger galaxies in this image are seen as they were when our Sun first started shining 4.6 billion years ago, but were at that time already almost 9 billion years old. The Universe was a more violent and active place with galaxies still assembling. This is shown by the many colliding galaxies, tidal tails and bridges, by extended streams of stars from shredded smaller galaxies, and bright galaxy cores that show evidence of supermassive black holes feeding and growing."

Credit: NASA / ESA / CSA, Rolf Jansen, Jake Summers, Rosalia O'Brien, and Rogier Windhorst (Arizona State University), Aaron Robotham (ICRAR/UWA), Anton Koekemoer (STScI), Christopher Willmer (UofA), and the PEARLS team. 11–filter color composite by Rolf Jansen (ASU), with additional image processing by Alyssa Pagan (STScI).

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