



Hubble Space Telescope  
The Latest Spectacular Images from the Cosmos

2022

## Cover

Return to the Veil Nebula



The Veil Nebula, which resides around 2100 light-years from Earth in the constellation of Cygnus, was the subject of new processing techniques in 2021, bringing out fine details of the nebula's delicate threads and filaments of ionised gas.

Credit: ESA/Hubble & NASA, Z. Levay

## January

An Expanding, Gaseous Corpse



This supernova remnant known as 1E 0102.2-7219 is located roughly 200 000 light-years away. Because the gaseous knots in this supernova remnant are moving at different speeds and directions from the supernova explosion, those moving toward Earth are colored blue in this composition and the ones moving away are shown in red.

Credit: NASA, ESA, and J. Banovetz and D. Milisavljevic (Purdue University)

## February

A Pair of Squabbling Galaxies



This snapshot showcases Arp 86, a peculiar pair of interacting galaxies which lies roughly 220 million light-years from Earth. Arp 86 is composed of the two galaxies NGC 7752 and NGC 7753 — NGC 7753 is the large spiral galaxy dominating this image, and NGC 7752 is its smaller companion.

Credit: ESA/Hubble and NASA, Dark Energy Survey, J. Dalcanton

## March

Rings of Relativity



This image depicts GAL-CLUS-022058, one of the largest and one of the most complete Einstein rings ever discovered in our Universe. It has been nicknamed as the "Molten Ring", which alludes to its appearance and host constellation.

Credit: ESA/Hubble & NASA, S. Jha. Acknowledgement: L. Shatz

## April

The Dual Nature of Hubble's 31st Anniversary Image



This comparison view shows puffing dust bubbles and an erupting gas shell — the final acts of the monster star AG Carinae, Hubble's 31st Anniversary image in April 2021. The left image showcases the details of the ionised hydrogen and ionised nitrogen emissions from the nebula (in red), while the blue in the second image demonstrates the contrasting appearance of the distribution of dust that shines of reflected stellar light.

Credit: ESA/Hubble and NASA, A. Nota, C. Britt

## May

Menagerie of Galaxies



This packed image showcases the galaxy cluster ACO S 295, as well as a jostling crowd of background galaxies and foreground stars. Galaxies of all shapes and sizes populate this image, ranging from stately spirals to fuzzy ellipticals.

Credit: ESA/Hubble & NASA, F. Pacaud, D. Coe

## June

A Scattering of Stars



The open star cluster NGC 330 lies around 180 000 light-years away inside the Small Magellanic Cloud. The cluster — which is in the constellation Tucana (The Toucan) — contains a multitude of stars, many of which are scattered across this striking image.

Credit: ESA/Hubble & NASA, J. Kalirai, A. Milone

## July

Spiral Beauty



This spectacular image shows the trailing arms of NGC 2276, a spiral galaxy 120 million light-years away in the constellation of Cepheus. This is a strangely lopsided galaxy that is shaped by gravitational interaction and intense star formation.

Credit: ESA/Hubble & NASA, P. Sell. Acknowledgement: L. Shatz

## August

Cosmic Lens Flare



Gravitational lensing occurs when light from a distant galaxy is subtly distorted by the gravitational pull of an intervening astronomical object. Here the relatively nearby galaxy cluster MACSJ0138.0-2155 has lensed a significantly more distant quiescent galaxy that has run out of the gas required to form new stars and is located 10 billion light years away.

Credit: ESA/Hubble & NASA, A. Newman, M. Akhshik, K. Whitaker

## September

Glittering Globular Cluster

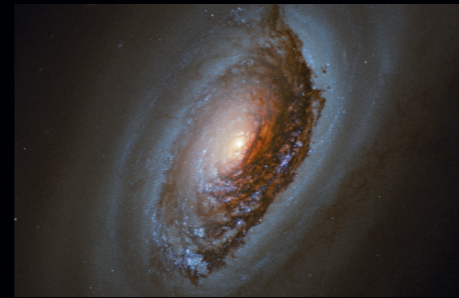


This star-studded image depicts NGC 6717, which lies more than 20 000 light-years from Earth in the constellation Sagittarius. NGC 6717 is a globular cluster, a roughly spherical collection of stars tightly bound together by gravity.

Credit: ESA/Hubble and NASA, A. Sarajedini

## October

Eye in the Sky



NGC4826 is a spiral galaxy located 17 million light-years away in the constellation of Coma Berenices. This galaxy is often referred to as the "Black Eye", or "Evil Eye", galaxy because of the dark band of dust that sweeps across one side of its bright nucleus.

Credit: ESA/Hubble & NASA, J. Lee and the PHANGS-HST Team. Acknowledgement: Judy Schmidt

## November

A Dangerous Dance

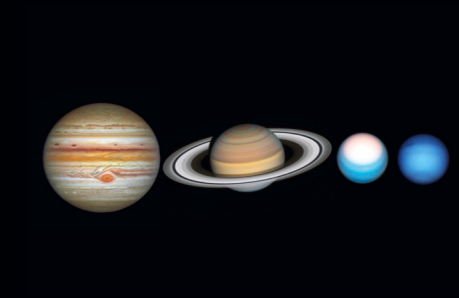


These two interacting galaxies are so intertwined, they have a collective name — Arp 91. This delicate galactic dance is taking place over 100 million light-years from Earth. The lower galaxy, which in this image looks like a bright spot, is known as NGC 5953; and the ovoid galaxy to the upper right is NGC 5954.

Credit: ESA/Hubble & NASA, J. Dalcanton. Acknowledgement: J. Schmidt

## December

Grand Tour of the Solar System



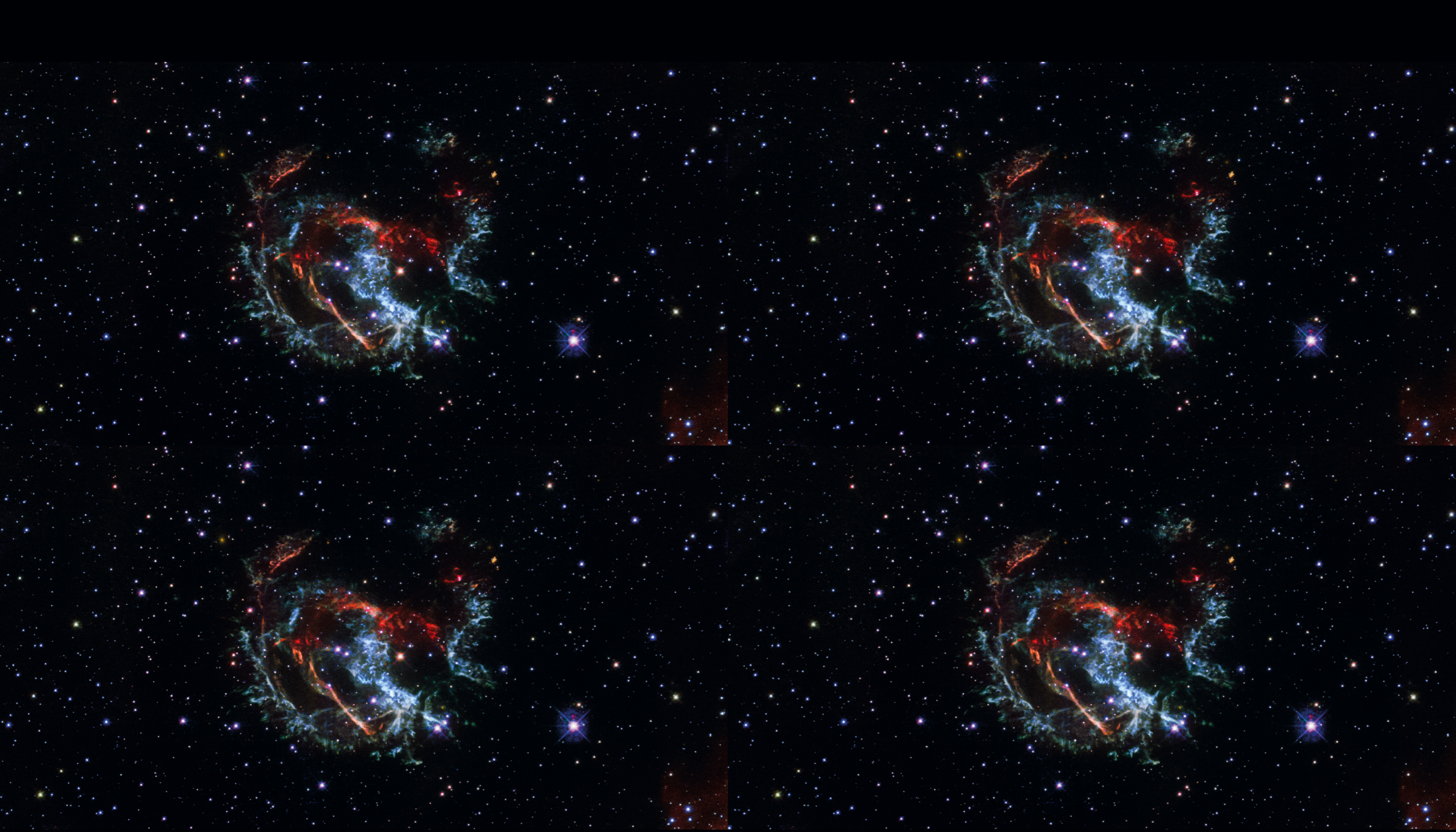
Hubble completed its annual grand tour of the outer solar system in 2021, featuring Jupiter, Saturn, Uranus, and Neptune. These planets are mostly composed of chilly gaseous soups of hydrogen, helium, ammonia, and methane around a hot, compact core.

Credit: NASA, ESA, NASA, ESA, A. Simon (Goddard Space Flight Center), and M.H. Wong (University of California, Berkeley) and the OPAL team

# 2022



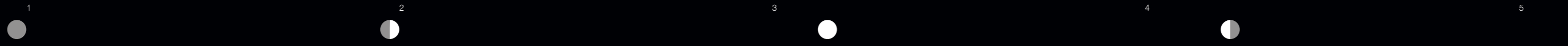
Moon phases are indicated in Universal Time.



January 2022

An Expanding, Gaseous Corpse

Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday							
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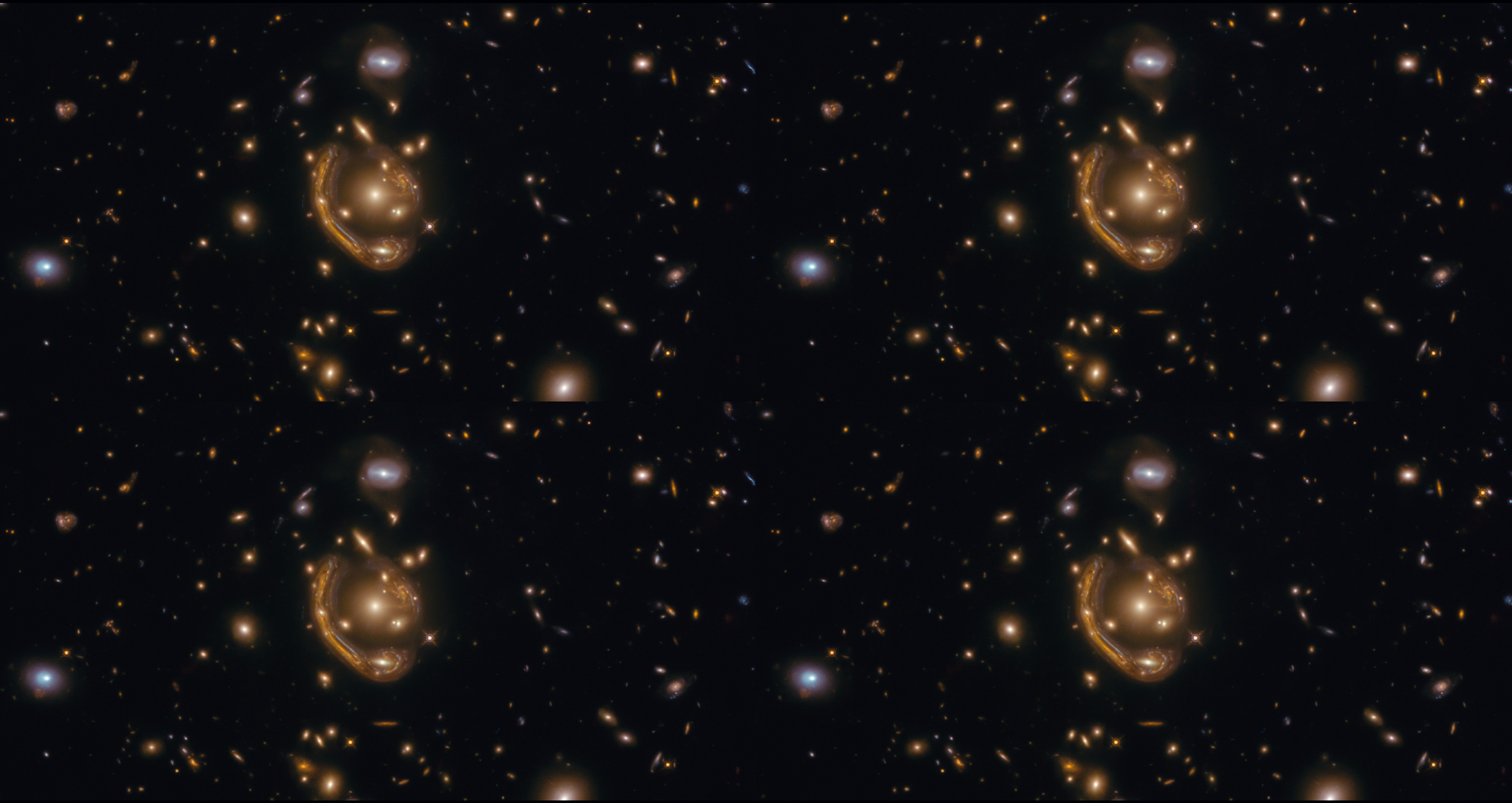


# February 2022

A Pair of Squabbling Galaxies

Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	1	2	3



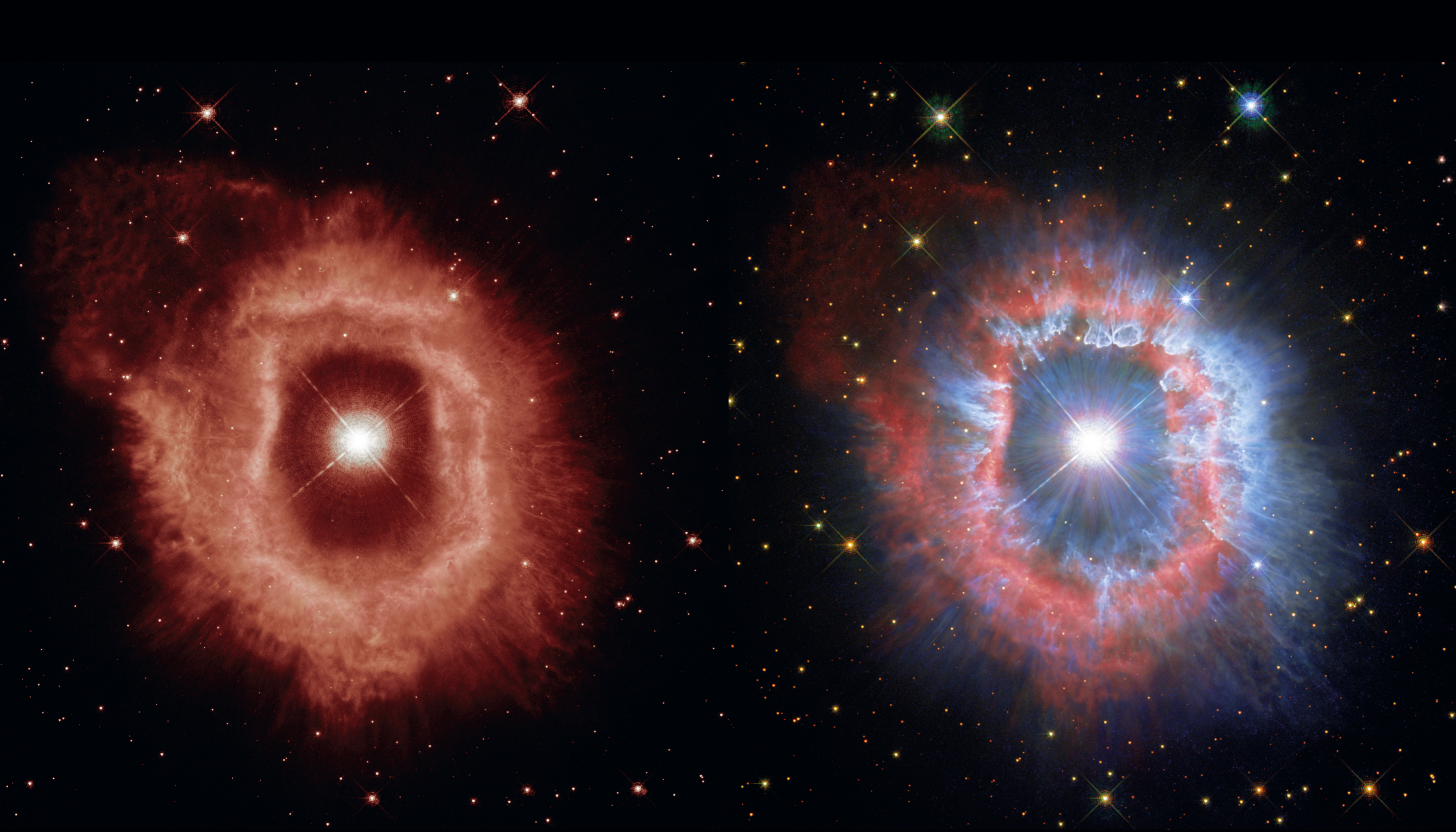


March 2022

Rings of Relativity

Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31





April 2022

The Dual Nature of Hubble's 31st Anniversary Image

Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1

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May 2022

Menagerie of Galaxies

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31





June 2022

A Scattering of Stars

Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1

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July 2022

Spiral Beauty

Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

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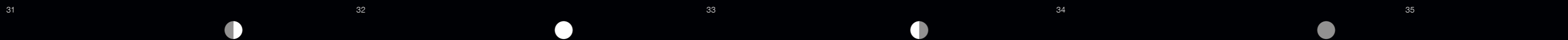




# August 2022

Cosmic Lens Flare

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31





September 2022

Glittering Globular Cluster

Thursday Friday Saturday Sunday Monday Tuesday Wednesday Thursday Friday Saturday Sunday Monday Tuesday Wednesday Thursday Friday Saturday Sunday Monday Tuesday Wednesday Thursday Friday Saturday

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 1

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# October 2022

Eye in the Sky





# November 2022

A Dangerous Dance

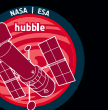
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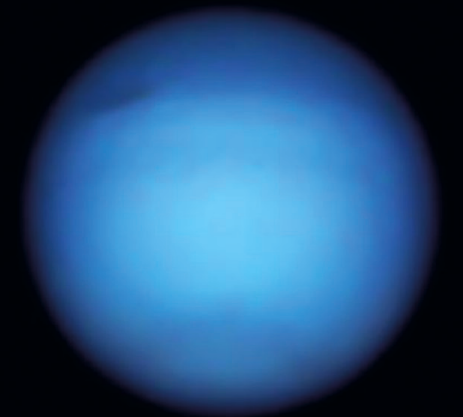
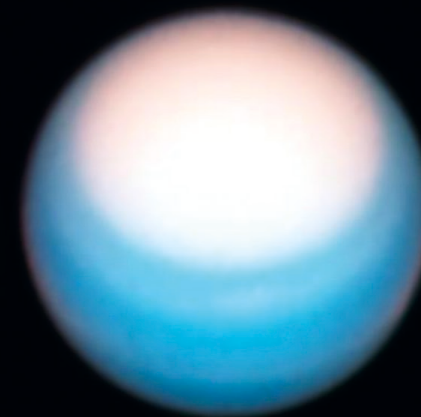
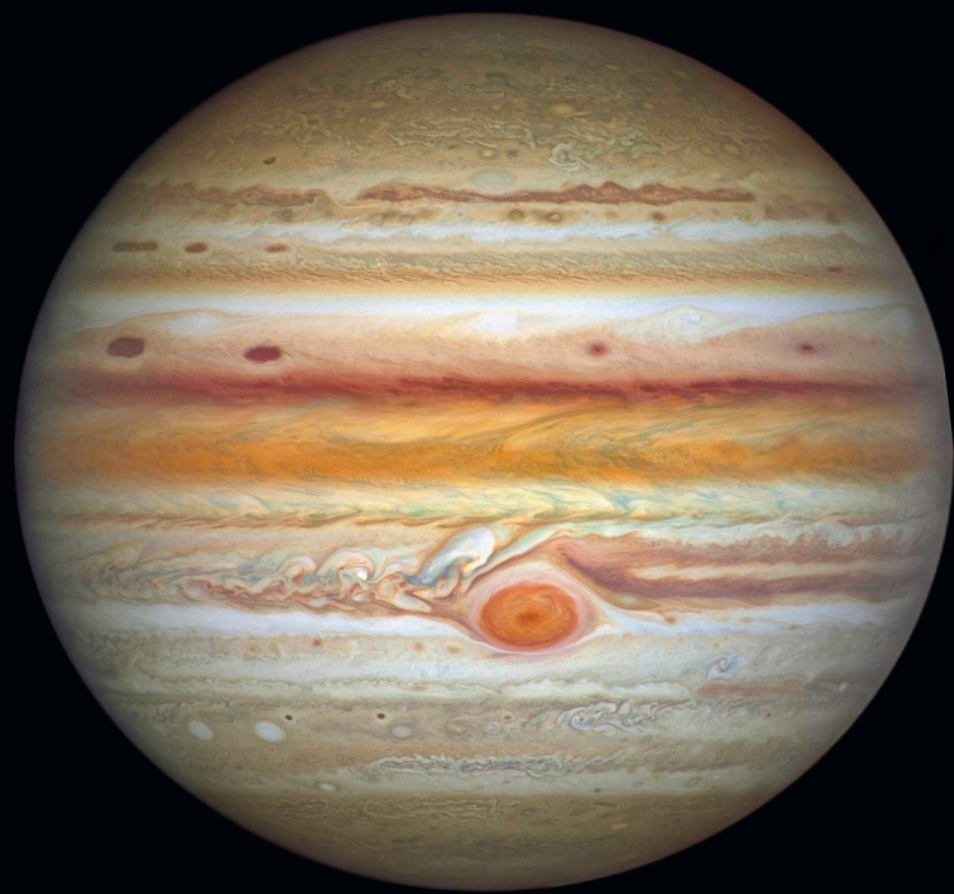
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Grand Tour of the Solar System

## December 2022

Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

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The NASA/ESA Hubble Space Telescope

Credit: NASA/ESA





The images featured in this calendar were taken  
by the NASA/ESA Hubble Space Telescope  
and were publicly released throughout 2021