
TW@N
THIS WEEK @ NASA

1
00:00:00,133 --> 00:00:03,269
The Webb Space Telescope's new
look at the cosmos …

2
00:00:03,403 --> 00:00:07,874
Technology used to fine tune Webb
improves the vision of millions on Earth …

3
00:00:08,274 --> 00:00:10,910
And a new climate study
heads to the space station …

4
00:00:10,910 --> 00:00:14,247
a few of the stories
to tell you about – This Week at NASA!

5
00:00:15,482 --> 00:00:18,718
It's a new window
into the history of our universe.

6
00:00:18,718 --> 00:00:23,623
On July 11, President Joe Biden released
the first full-color image from our

7
00:00:23,623 --> 00:00:27,627
James Webb Space Telescope
during a public event at the White House

8
00:00:27,627 --> 00:00:28,661
in Washington.

9
00:00:28,661 --> 00:00:31,598
The image, known as Webb's
First Deep Field,

10
00:00:31,698 --> 00:00:33,533
reveals thousands of galaxies

11
00:00:33,533 --> 00:00:37,437

in a section of the sky
so tiny that it is only about as big

12
00:00:37,437 --> 00:00:41,741
as a grain of sand that is held at arm's
length by a person on the ground.

13
00:00:41,975 --> 00:00:44,244
Every part of this mission
is a partnership.

14
00:00:44,677 --> 00:00:48,815
The next day, in cooperation
with our partners from the European Space

15
00:00:48,815 --> 00:00:52,952
Agency, Canadian Space Agency, and Space
Telescope Science Institute,

16
00:00:53,253 --> 00:00:58,358
we released the full set of Webb's first
full-color images and spectroscopic data.

17
00:00:58,958 --> 00:01:03,696
The new observations uncover a collection
of previously hidden cosmic features.

18
00:01:04,130 --> 00:01:08,968
This includes the clear signature of water
on a planet outside our solar system

19
00:01:09,169 --> 00:01:12,472
that was not detected
by previous studies of that planet,

20
00:01:12,839 --> 00:01:16,876
the earliest rapid phases
of star formation in the Carina Nebula,

21
00:01:16,876 --> 00:01:20,113

never-before-seen
details of a galaxy group

22
00:01:20,213 --> 00:01:24,451
that may help us better understand
galactic mergers and interactions,

23
00:01:24,751 --> 00:01:29,122
and a second dying star
brought into full view for the first time

24
00:01:29,289 --> 00:01:32,392
by Webb’s new infrared look at a planetary

25
00:01:32,392 --> 00:01:35,095
nebula about 2,000 light years from us.

26
00:01:35,662 --> 00:01:40,066
These first images kick off the beginning
of the telescope’s science operations.

27
00:01:40,400 --> 00:01:44,504
Now, astronomers will have a chance
to utilize the power of Webb

28
00:01:44,671 --> 00:01:48,108
to observe everything from objects
within our solar system

29
00:01:48,274 --> 00:01:51,478
to activity from the very early history
of the universe.

30
00:01:51,711 --> 00:01:56,049
We are now going to be

31
00:01:56,049 --> 00:02:00,053
determining things that we don’t even know

32

00:02:00,053 --> 00:02:04,991
what the questions are
that we ought to ask.

33
00:02:04,991 --> 00:02:08,428
And so it's
one of these great engineering feats –

34
00:02:09,963 --> 00:02:13,766
not just for us, but for humanity.

35
00:02:14,734 --> 00:02:18,771
Meanwhile, some NASA-developed technology
used during construction

36
00:02:18,771 --> 00:02:22,342
of the Webb Space Telescope
to measure deviations in its mirrors

37
00:02:22,642 --> 00:02:26,412
is driving major
improvements to LASIK laser eye surgery

38
00:02:26,613 --> 00:02:30,150
and helping to improve the vision
of millions of people on Earth.

39
00:02:30,750 --> 00:02:33,486
Medical company,
Johnson & Johnson has incorporated

40
00:02:33,586 --> 00:02:37,190
the tech into a device
that takes precise eye measurements

41
00:02:37,190 --> 00:02:41,761
to map imperfections
in visual pathways and cornea curvature.

42
00:02:42,295 --> 00:02:46,633

NASA has a long history of transferring
technology to the private sector.

43
00:02:47,033 --> 00:02:51,304
Learn more about our efforts
to bring space technology down to Earth

44
00:02:51,538 --> 00:02:53,573
at spinoff.nasa.gov.

45
00:02:55,375 --> 00:02:57,544
On July 14, a SpaceX

46
00:02:57,544 --> 00:03:01,014
Dragon spacecraft launched
from Kennedy Space Center in Florida

47
00:03:01,214 --> 00:03:04,918
with more than 5,800 pounds of cargo
for the crew aboard

48
00:03:04,918 --> 00:03:07,120
the International Space Station.

49
00:03:07,120 --> 00:03:10,757
The cargo includes a new NASA
climate study called the

50
00:03:10,757 --> 00:03:14,727
Earth Surface
Mineral Dust Source Investigation or EMIT.

51
00:03:15,028 --> 00:03:19,165
This research could help us learn more
about the composition of mineral dust

52
00:03:19,399 --> 00:03:23,970
carried through the atmosphere from
deserts and its effects on our climate.

53
00:03:25,805 --> 00:03:27,273
Our Perseverance Mars

54
00:03:27,273 --> 00:03:30,143
rover is still conducting its science
campaign.

55
00:03:30,543 --> 00:03:33,112
The rover recently
collected its tenth rock core

56
00:03:33,112 --> 00:03:35,949
sample at Jezero Crater's
ancient river delta.

57
00:03:36,382 --> 00:03:39,118
But the rover is also scouting
for locations

58
00:03:39,118 --> 00:03:43,723
at which the future Mars Sample
Return Campaign can land spacecraft,

59
00:03:44,023 --> 00:03:46,693
collect the sample tubes left
by Perseverance,

60
00:03:46,926 --> 00:03:50,096
and return the rock
and dirt samples to Earth for study.

61
00:03:50,597 --> 00:03:53,199
The sites being scouted
are under consideration

62
00:03:53,199 --> 00:03:57,203
because of their proximity to the delta
and to one another, as well

63

00:03:57,203 --> 00:04:00,473
as for their relatively flat,
lander-friendly terrain.