



1
00:00:00,390 --> 00:00:03,259
Hubble makes an exoplanet discovery ...

2
00:00:03,259 --> 00:00:05,870
The next space station crew gets ready to launch ...

3
00:00:05,870 --> 00:00:11,430
And back to work in Florida after weathering the storm ... a few of the stories to tell

4
00:00:11,430 --> 00:00:14,880
you about – This Week at NASA!

5
00:00:14,880 --> 00:00:19,300
Researchers using data from our Hubble Space Telescope have, for the first time, detected

6
00:00:19,300 --> 00:00:25,179
water vapor signatures in the atmosphere of a planet outside our solar system that resides

7
00:00:25,179 --> 00:00:26,800
in the "habitable zone."

8
00:00:26,800 --> 00:00:31,199
This is the region around a star in which liquid water could potentially pool on the

9
00:00:31,199 --> 00:00:33,440
surface of a rocky planet.

10
00:00:33,440 --> 00:00:39,800
The planet – known as K2-18b, orbits a small red dwarf star about 110 light-years from

11
00:00:39,800 --> 00:00:42,030
us, in the constellation Leo.

12
00:00:42,030 --> 00:00:47,329
If confirmed by further studies, this will
be the only exoplanet known to have both water

13
00:00:47,329 --> 00:00:54,539
in its atmosphere and temperatures that could
sustain liquid water on a rocky surface.

14
00:00:54,539 --> 00:00:58,680
The next crew headed to the International
Space Station, including our Jessica Meir,

15
00:00:58,680 --> 00:01:04,070
wrapped up activities at the Gagarin Cosmonaut
Training Center outside Moscow on Sept. 10.

16
00:01:04,070 --> 00:01:09,450
Meir and her crewmates – Oleg Skripochka
of Roscosmos, and Spaceflight Participant

17
00:01:09,450 --> 00:01:15,490
Hazzaa Ali Almansoori – then departed for
the Baikonur Cosmodrome launch site in Kazakhstan

18
00:01:15,490 --> 00:01:17,530
to complete their training.

19
00:01:17,530 --> 00:01:23,080
The trio is scheduled to launch to the station
on Sept. 25.

20
00:01:23,080 --> 00:01:28,170
On Sept. 10 at our Kennedy Space Center in
Florida, the mobile launcher for our Artemis

21
00:01:28,170 --> 00:01:34,230
missions to the Moon began the 4-mile ride
atop crawler-transporter 2 back to Launch

22

00:01:34,230 --> 00:01:39,979

Pad 39B – after being housed for more than a week inside the Vehicle Assembly Building

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00:01:39,979 --> 00:01:42,100

due to Hurricane Dorian.

24

00:01:42,100 --> 00:01:47,180

With the mobile launcher back in place at the pad, teams can resume validation and verification

25

00:01:47,180 --> 00:01:52,540

testing for our Artemis I mission – which they plan to complete in the coming weeks.

26

00:01:52,540 --> 00:01:57,940

Artemis I will be the first integrated uncrewed test flight of our Orion spacecraft, Space

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00:01:57,940 --> 00:02:03,590

Launch System or SLS rocket and the ground systems at Kennedy Space Center.

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00:02:03,590 --> 00:02:08,840

Meanwhile, progress toward the launch pad for Artemis I continues for our SLS rocket

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00:02:08,840 --> 00:02:10,570

and Orion spacecraft.

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00:02:10,570 --> 00:02:16,690

SLS and Orion have moved from design and manufacturing, to testing and assembly and integration – some

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00:02:16,690 --> 00:02:20,340

of the hardware has even been delivered to the launch pad at Kennedy.

32

00:02:20,340 --> 00:02:25,840

A new online animated video shows a breakdown

of the parts that will make up the completed

33

00:02:25,840 --> 00:02:27,650

flight hardware for the mission.

34

00:02:27,650 --> 00:02:31,819

Check it out at go.nasa.gov/artemis1progress.

35

00:02:31,819 --> 00:02:37,319

Along with the Gateway in lunar orbit and a new human landing system, SLS and Orion

36

00:02:37,319 --> 00:02:45,130

create the backbone for our Artemis missions that will land astronauts on the Moon by 2024.

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00:02:45,130 --> 00:02:50,629

Radar data from our Cassini spacecraft were used in recently published research that suggests

38

00:02:50,629 --> 00:02:56,600

explosions of warming liquid nitrogen are responsible for the steep-rimmed craters encircling

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00:02:56,600 --> 00:03:00,879

some of the methane-filled lakes on Saturn's moon Titan.

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00:03:00,879 --> 00:03:05,860

Most existing models that lay out the origin of Titan's lakes point to a process that does

41

00:03:05,860 --> 00:03:08,349

not produce steep rims.

42

00:03:08,349 --> 00:03:13,540

Titan and Earth are the only planetary bodies in our solar system known to have stable surface

43

00:03:13,540 --> 00:03:19,230

liquids – water on Earth and methane and ethane on Titan — hydrocarbons that we think

44

00:03:19,230 --> 00:03:24,200

of as gases, but that behave as liquids in Titan's frigid climate.

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00:03:24,200 --> 00:03:29,720

The radar data were gathered during Cassini's last close flyby of Titan, as the spacecraft

46

00:03:29,720 --> 00:03:34,209

prepared for its final plunge into Saturn's atmosphere two years ago.

47

00:03:34,209 --> 00:03:37,989

That's what's up this week @NASA ...