
SpacetoGround

1
00:00:02,980 --> 00:00:04,920
"Houston, Station on Space to Ground."

2
00:00:05,240 --> 00:00:07,160
Welcome to Space to Ground, I'm Gary Jordan.

3
00:00:07,460 --> 00:00:10,540
This week, cameras both in the
hands of astronauts and mounted outside

4
00:00:10,540 --> 00:00:13,980
the International Space Station were
trained on Hurricane Dorian.

5
00:00:15,220 --> 00:00:19,760
The powerful storm was seen clearly from 250 miles
above the earth throughout its path this

6
00:00:19,760 --> 00:00:23,420
week, affecting the Bahamas and the
southeastern United States as it made

7
00:00:23,420 --> 00:00:27,350
its way north. Live video was captured as
the Space Station passed right overhead,

8
00:00:27,350 --> 00:00:31,900
and NASA astronauts shared photos of
their perspective of the massive hurricane.

9
00:00:32,580 --> 00:00:35,320
Views of storms from the Space
Station could provide valuable data

10
00:00:35,320 --> 00:00:37,340
about the life cycle of hurricanes.

11
00:00:38,740 --> 00:00:40,640
An uncrewed Soyuz spacecraft is set to

12
00:00:40,640 --> 00:00:43,880
undock from the International Space
Station after its short stay aboard.

13
00:00:45,440 --> 00:00:47,780
After just 11 days aboard the orbiting
laboratory

14
00:00:47,780 --> 00:00:51,829
the Soyuz MS 14 is set to undock and
return to Earth for a parachute

15
00:00:51,829 --> 00:00:56,300
assistant landing in Kazakhstan. Inside
will be Russian cargo and an

16
00:00:56,300 --> 00:01:01,489
experimental humanoid robot Skybot F-850. Watch the craft undocked from the

17
00:01:01,489 --> 00:01:06,660
station live on NASA TV. No views will be
provided for the uncrewed vehicle's landing.

18
00:01:07,620 --> 00:01:11,440
This week's question comes from Chinthi Bro, who asks about the space station's

19
00:01:11,440 --> 00:01:15,980
internet connection speed. Well it's a
lot faster now thanks to a recent upgrade.

20
00:01:16,720 --> 00:01:19,460
The space station communicates
with earth through radio frequency

21
00:01:19,460 --> 00:01:23,390
signals using a system of tracking and
data relay satellites stationed in

22

00:01:23,390 --> 00:01:27,360
geosynchronous orbit, and ground-based
antennas that are part of a space network.

23
00:01:28,020 --> 00:01:32,900
NASA recently upgraded software,
data processors, routers, data lines, and

24
00:01:32,900 --> 00:01:38,060
more to increase the data rate to 600
megabits per second, effectively double

25
00:01:38,060 --> 00:01:42,530
what was previously possible. Access to
the Internet is a small fraction of this

26
00:01:42,530 --> 00:01:46,369
capability, as its primary use is
transmitting data for operating the

27
00:01:46,369 --> 00:01:51,260
space station systems, and for collecting
valuable scientific data. Just this week

28
00:01:51,260 --> 00:01:56,780
it was used for plant growth experiments,
360-degree video, and much more.