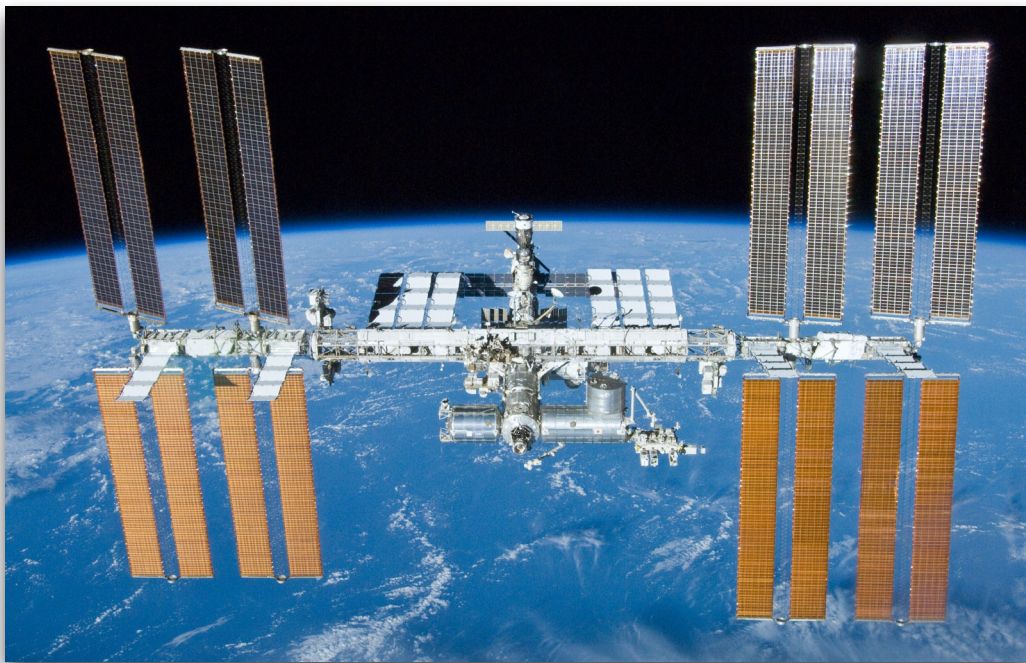


International Space Station

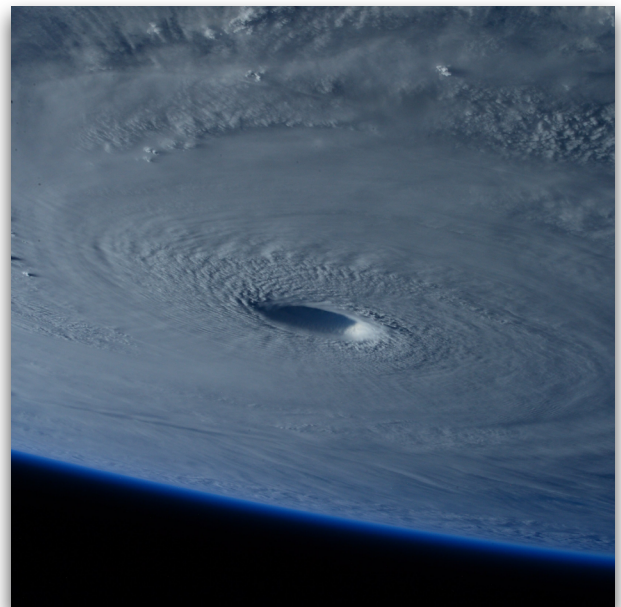
Since November 2000, humans have had a permanent home in space – the International Space Station. Over 240 astronauts from all over the world have lived and worked in space, and during that time many significant discoveries have been made.



Here are four things we understand better thanks to the ISS:

Disaster Response

Because of the unique view of Earth from space, many natural disasters including hurricanes, volcanos and droughts have been monitored by the astronauts on board the ISS. This can help the humanitarian response, track the severity of the incident and help us improve when future incidents occur.



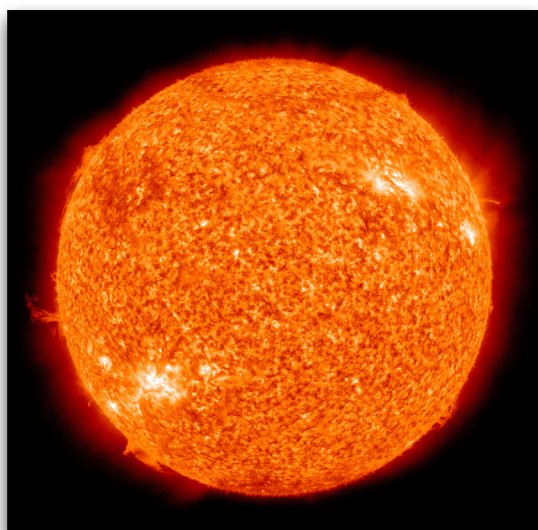
What a hurricane looks like from space

Effects of Space on the Body

Humans have been visiting space for over 50 years, and will continue to do so for years to come. The ISS has enabled long-term research on the effects of living in space on the body, including how it effects your muscles, bones and eyes. This research will help us safely send more astronauts into space in the future.



An astronaut floating in space!



The sun, as seen in Ultraviolet light

Understanding Cosmic Rays

Energetic particles from the Sun and other celestial sources constantly bombard the Earth. Often as they pass through the atmosphere they are absorbed or change into other things. The Alpha Magnetic Spectrometer on board the ISS is the most sensitive particle detector ever launched into space and will help researchers understand more about these cosmic rays.

How to Grow Plants in Space

In order to prepare for crewed space trips to Mars and beyond, humans need to be able to grow enough food to survive. Many experiments exploring how to grow vegetables in microgravity have been conducted on the ISS, and they are now producing fresh salad for the astronauts to eat.



Radishes being grown on the ISS!

Activity

If you have ever seen photos or videos from on board the ISS one of the most noticeable things is that everything floats around. This is due to the microgravity of objects in orbit, just like the ISS.

While we can't recreate the feeling of weightlessness on Earth, we can give ourselves a "weightless" challenge using a hairdryer and a ping-pong ball!

Watch our video [here](#) and then give it a go yourself.

1. Try and balance the ball in the air. How long can you hold it for?
2. Can you move the ball around?
3. Why not find a net or a bag and try and get the ball into the target.

Managed all three? You are definitely ready to become an astronaut on the ISS!

Share your attempts with us online using [#DynamicEarthOnline](#)

All images from NASA