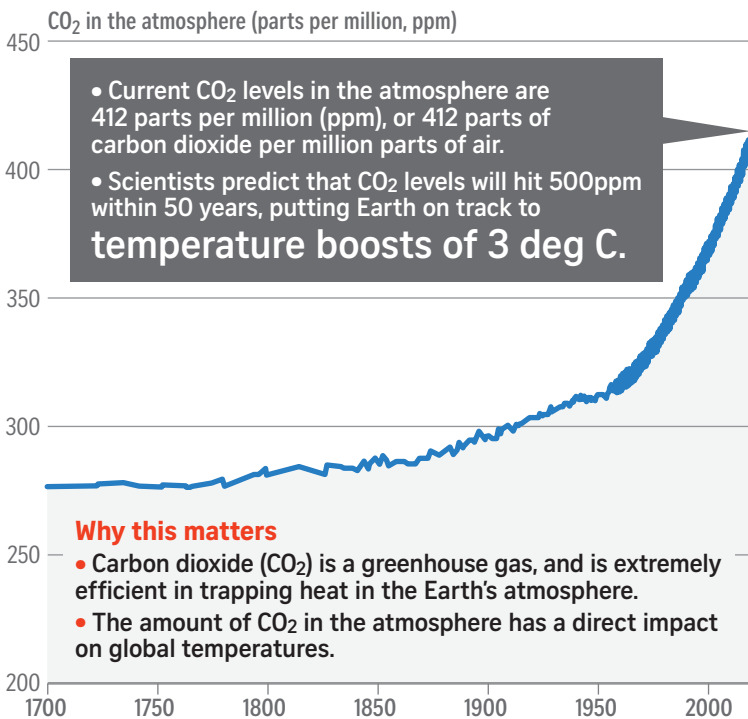


Planet Earth's health report

Surging temperatures, melting polar caps and rising sea levels – scientific evidence worldwide has painted a picture of our planet and it is not looking too good. **Vanessa Liu** puts together a health report card for the earth and tells us why we should sit up and listen to what the vital statistics have to say.

EMISSIONS



NOTE: Before 1958: Ice core data. After 1958: Measurements recorded at Mauna Loa Observatory in Hawaii. Last entry was on Oct 2 this year.

TEMPERATURE

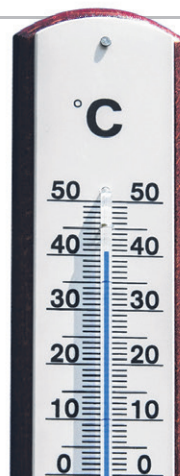
18 out of the 19 warmest years have occurred since 2001, with the exception of 1998.

2015 to 2018
The warmest years on record.

July 2019
Possibly the hottest month on record since analysis began.

Why this matters

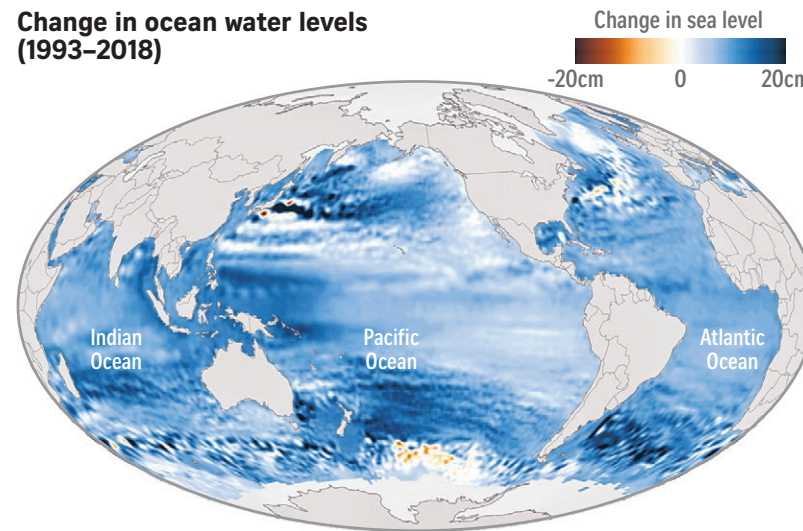
- Experts believe that the extra heat drives seasonal temperature extremes, causes snow cover and sea ice to melt, and intensifies rainfall.
- In some cases, it transforms entire habitats, affecting the creatures that live in them.



Sea-level rise (2014–2019)

- The rate of global mean sea-level rise is **5mm per year**, with much of the rise coming from glaciers and ice sheets that are melting much faster.
- Rising seas threaten people and infrastructure along coastlines around the world.

Change in ocean water levels (1993–2018)



Why this matters

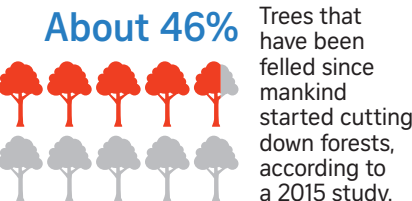
Other than considerable damage to coastal communities, small rises in sea levels can lead to significant changes during weather extremes, such as tropical cyclones and storm surges, say experts.



DEFORESTATION

1.3 million sq km
(An area larger than South Africa)

Forests that have disappeared from the earth due to deforestation between 1990 and 2016.



Why this matters

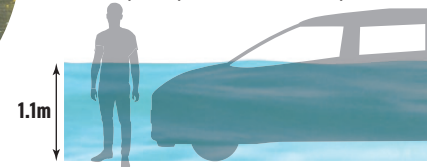
- Deforestation, which is a consequence of agriculture, livestock grazing and the demand for timber, threatens the 80 per cent of the earth's land animals and plants which live in forests.
- Forests also act as green lungs that regulate the amount of carbon dioxide in the atmosphere.

SEA-LEVEL RISE

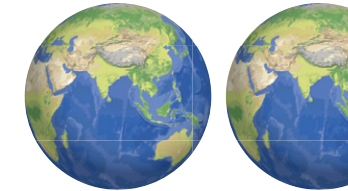
About 15cm

During the 20th century.

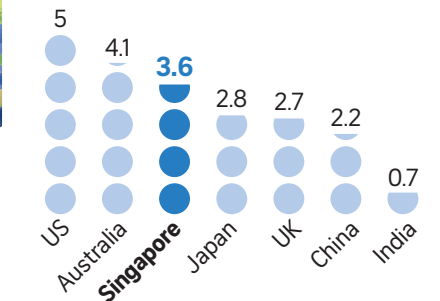
Sea levels could rise by **up to 1.1m by 2100** if emissions continue to grow strongly, says the United Nations' latest report published on Sept 25.



EARTH OVERSHOOT DAY*



The number of the earths we need if all of humanity consumed like the people in...



Humanity is currently using nature 1.75 times faster than our planet's ecosystems can regenerate. This is akin to **using 1.75 earths.**

NOTE: *Earth Overshoot Day marks the date when mankind's demand for natural resources, such as water, soil and clean air, in a given year exceeds what the earth can regenerate in that year. It was on July 29 this year.

Why this matters

At the rate that humanity is using up resources, we would need 1.75 earths to survive.

BIODIVERSITY

Up to 1 million species are at risk of extinction.

More than 1/3 of the world's land surface and **nearly 3/4** of freshwater resources are now devoted to crop or livestock production.

Why this matters

- Disappearing species can lead to a chain effect in the ecosystem.
- The world's ecosystems are also responsible for regulating many of the things that are paramount to mankind's survival, such as the oxygen we breathe, the water we drink and the food we eat.



Costa Rica's strict animal protection laws and land conservation plans have given flora and fauna, such as this Yellow-throated Toucan, room to thrive.

Sources: NASA, NATURE.COM, WORLD METEOROLOGICAL ORGANISATION, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, GLOBAL FOOTPRINT NETWORK, INTERGOVERNMENTAL SCIENCE-POLICY PLATFORM ON BIODIVERSITY AND ECOSYSTEM SERVICES
PHOTOS: AFP, EPA-EFE STRAITS TIMES GRAPHICS