

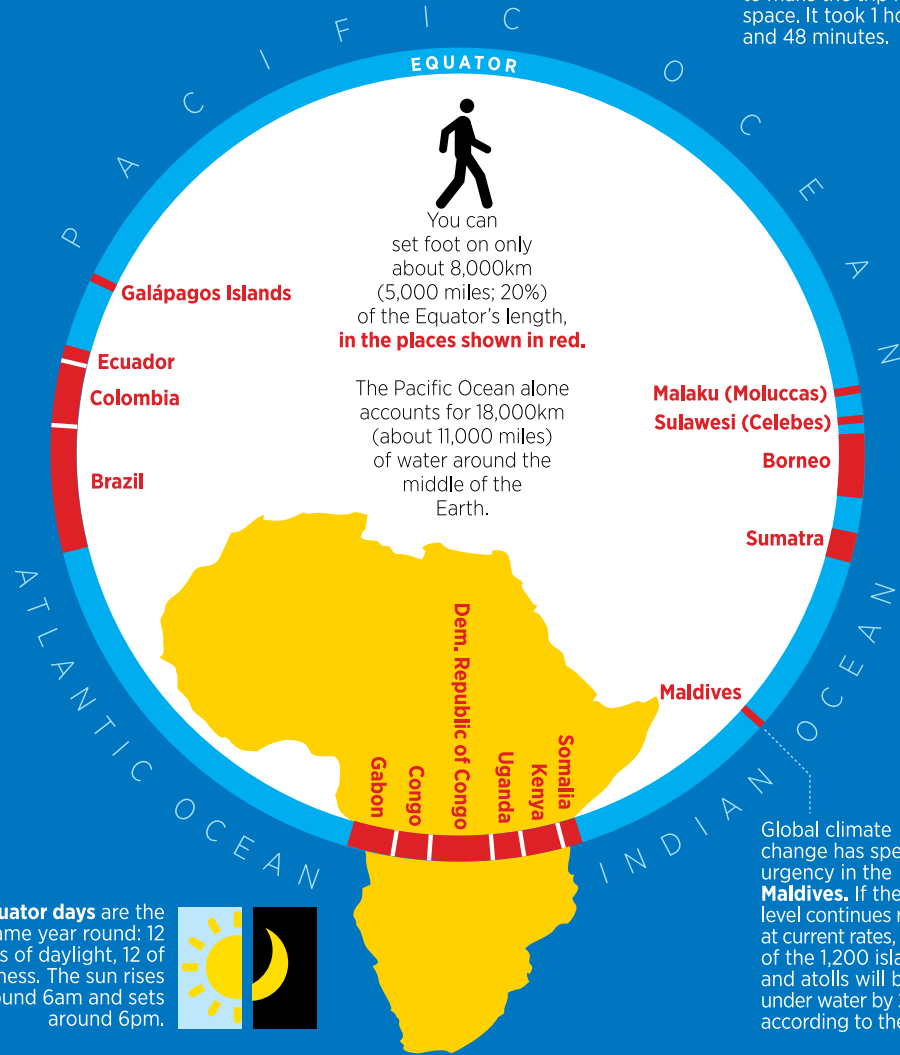


## Around the world: the equator

The first person to sail around the globe was Juan Sebastián del Cano, who took credit after his captain, Ferdinand Magellan, was killed en route. The voyage lasted almost 3 years, from 1519 to 1522.



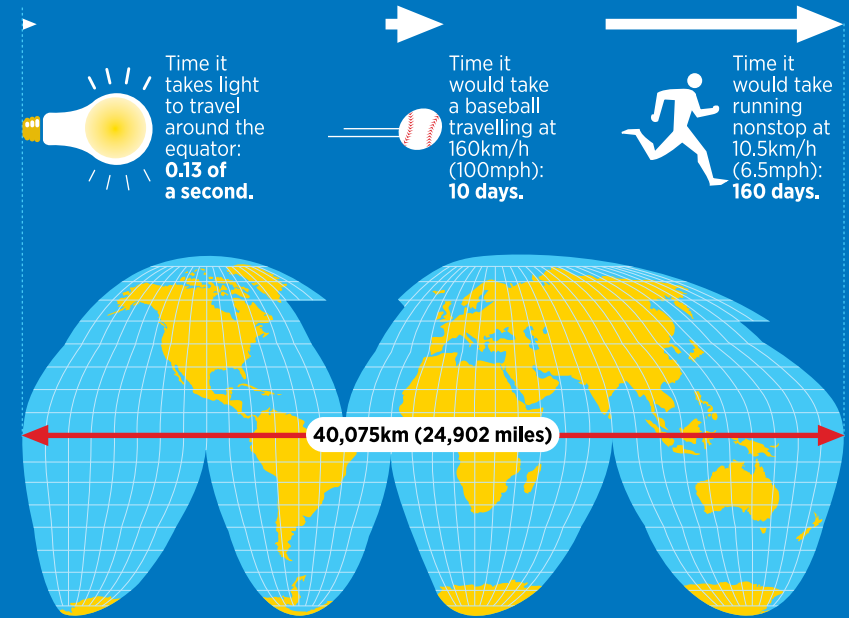
In 1961, Russian cosmonaut Yuri Gagarin was the first to make the trip into space. It took 1 hour and 48 minutes.



**Equator days** are the same year round: 12 hours of daylight, 12 of darkness. The sun rises around 6am and sets around 6pm.

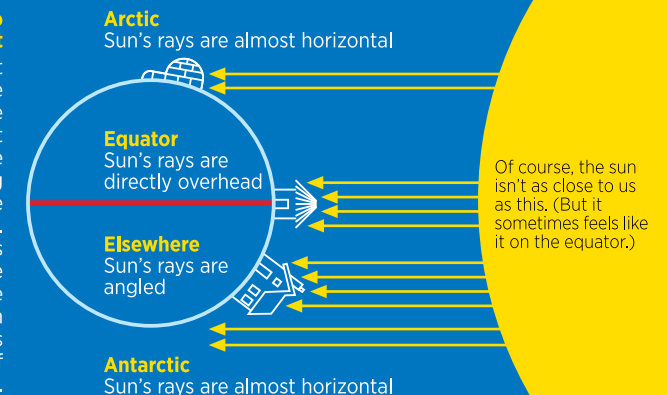


Global climate change has special urgency in the **Maldives**. If the sea level continues rising at current rates, most of the 1,200 islands and atolls will be under water by 2100, according to the UN.




### Why it's so darn hot

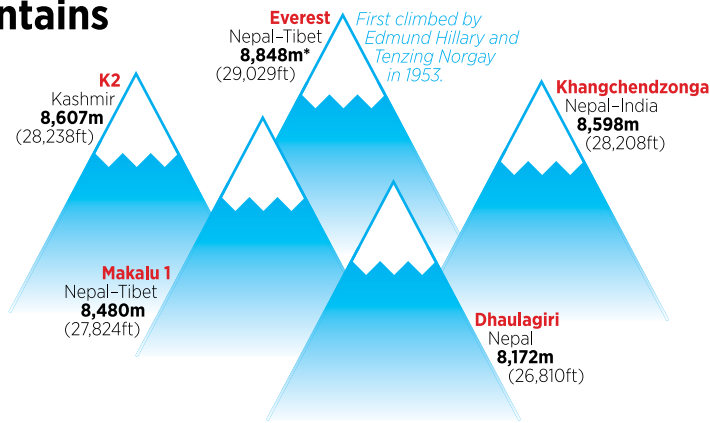
It's hot almost everywhere on the equator because the sun's rays hit the earth there straight on, heating the ground and the air above it. Elsewhere, the rays hit the atmosphere at an angle because the earth is curved. This dissipates some of the sun's energy.



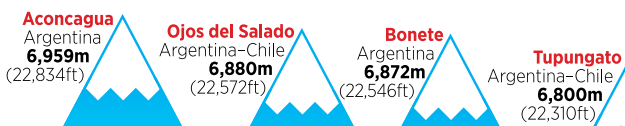
## The world's highest mountains

The really high ones are all in Asia. Shown here  are Asia's top five. (There are 60 other peaks in Asia that are higher than the tallest in South America, below.)

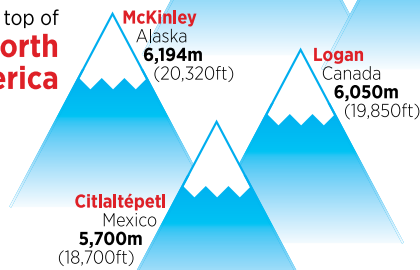
### The top of Asia



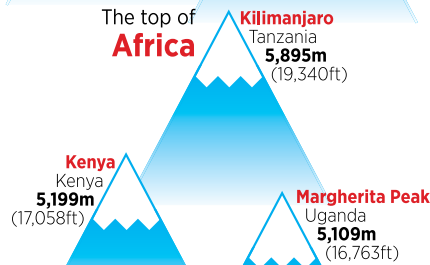
### The top of South America



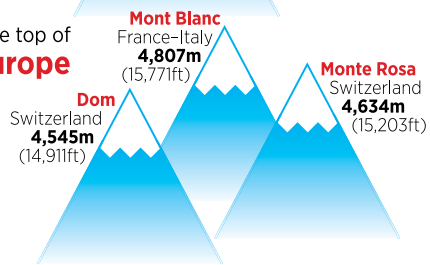
### The top of North America



### The top of Africa

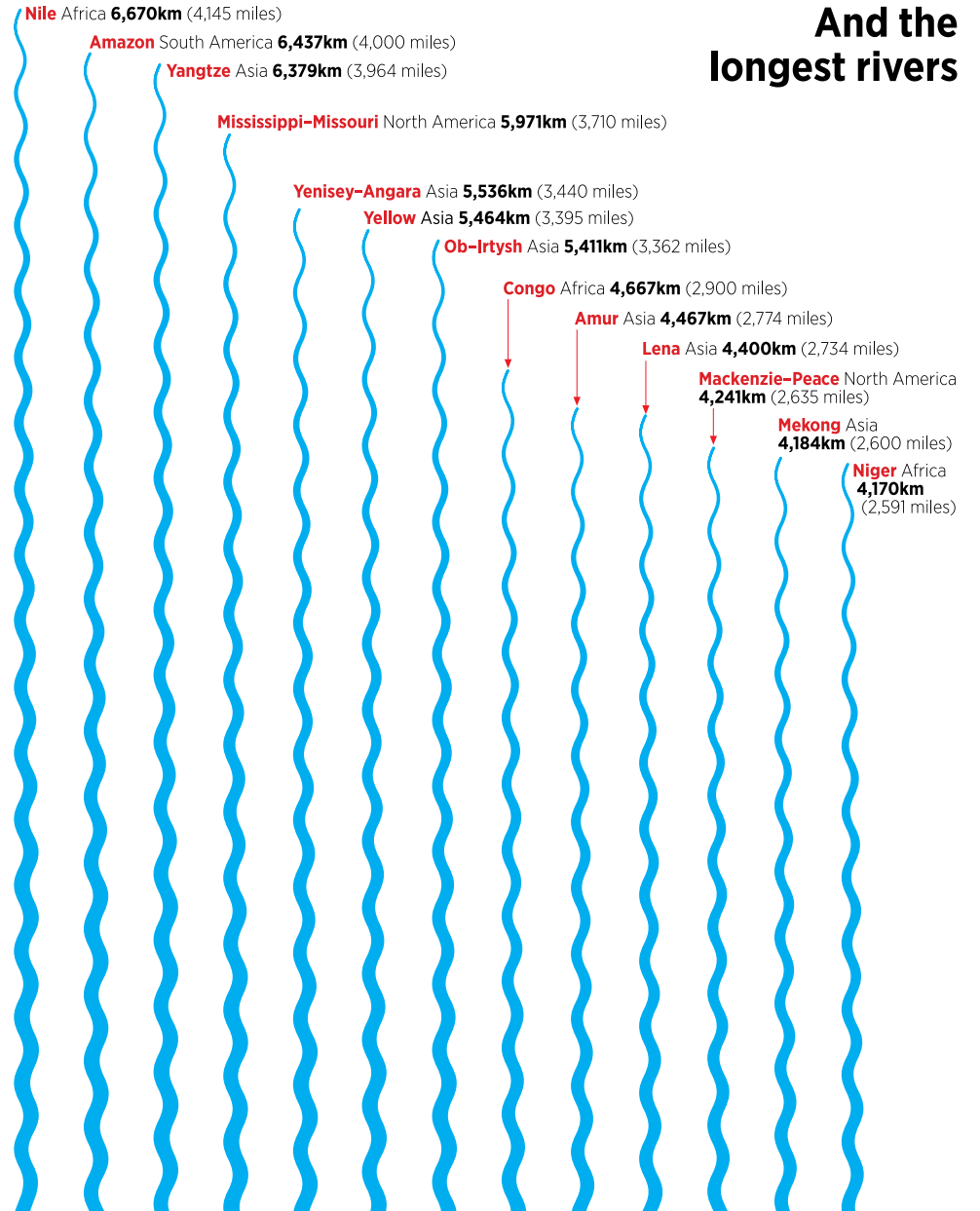


### The top of Europe



\* The height of Everest is hard to pin down. Some sources cite the height of the rock as the top, others (as here) include the ice and snow above the rock. Nepal is planning a new survey.

## And the longest rivers



## What are the “Northern Lights”?

Properly known as the **Aurora Borealis**, they are a wonderful sight that lights up the northern night sky. (Aurora was the Roman goddess of dawn; Boreas is the Greek name for the north wind.) Here’s the science behind what you see.

1

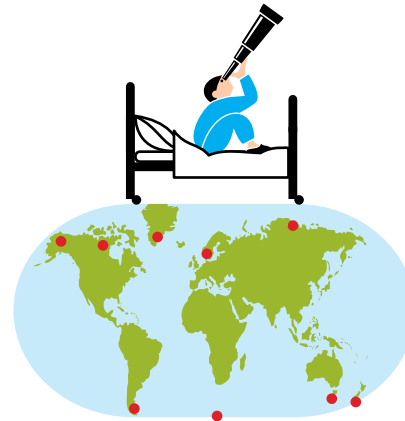
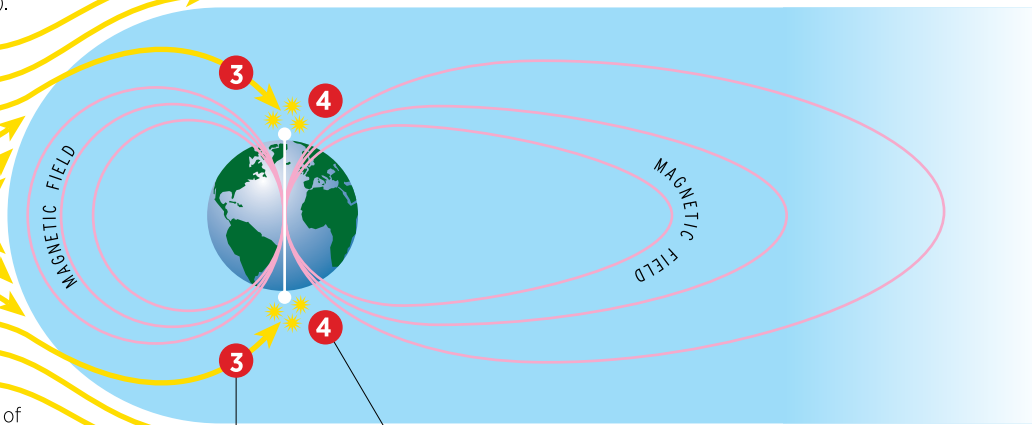
Streams of charged particles (electrons and protons) flow from the sun to Earth at a velocity of over 1.4 million km/h (900 thousand mph).

2

Most of the particles are deflected by Earth’s magnetosphere, (shown here in light blue ...)

but some are sucked into the vortex of Earth’s magnetic fields (pink lines) at the North and South Poles. (In the south, the effect is called **Aurora Australis**, or the Southern Lights.)

What we see as an aurora is the interaction of those charged particles with atoms from Earth’s atmosphere. They form an oval ring around each pole.



Shown here is one type of aurora, which appears like billowing curtains hanging in the air. (The other common effect is a diffuse glow swirling across the sky.) Auroras vary in colour from fluorescent greens to soft reds and yellows.

### Where (and when) are the best places to view the “lights”?

Wherever you are, you need a clear, dark sky. The best time is around midnight in winter.

To see the Aurora Borealis in the **north**, go to Alaska, Canada, Greenland, Scandinavia and the northern coast of Siberia. Wear warm clothes.

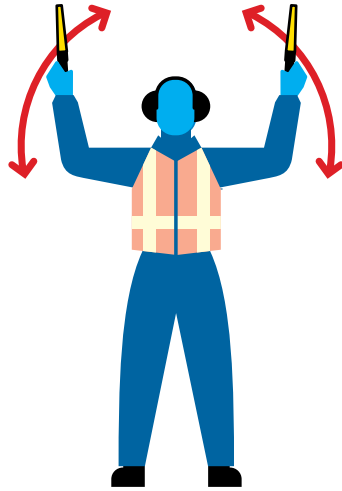
To see the Aurora Australis in the **south**, your best bets are Antarctica, South America, Tasmania and the southern tip of New Zealand.

## What do those signs mean?

How to read the signals that the guy on the runway is giving to your pilot.  
(They're called marshalling signals.)



start engines



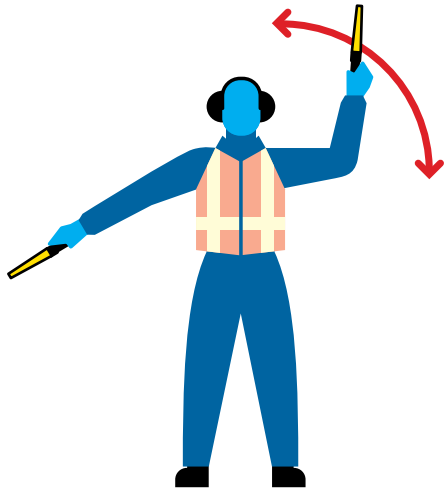
move ahead



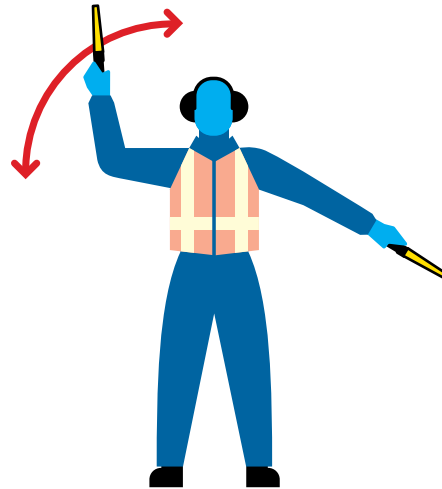
all clear



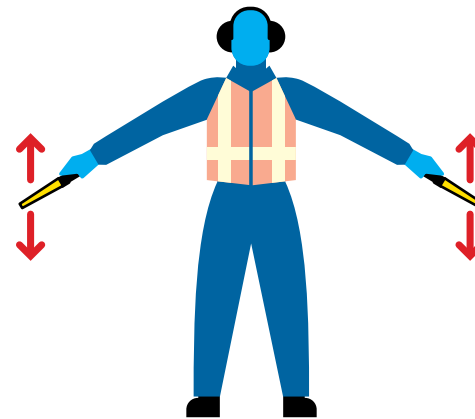
this way



turn to your left



turn to your right



slow down



stop