

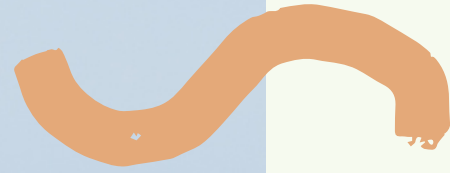
LATITUDE AND LONGITUDE



LATITUDE AND LONGITUDE

What is the grid system? How do we find locations of places on Earth





A SPECIAL ADDRESS

**WHEN PILOTS OR A SHIP CAPTAINS WANT TO
FIND A PLACE ON A MAP, THEY LOOK FOR ITS
COORDINATES.**

Each place on earth has its own coordinates, like a
special address.



ANYONE CAN USE COORDINATES

THE COORDINATES ARE MADE UP OF NUMBERS, SO PEOPLE CAN USE THEM NO MATTER WHAT LANGUAGE THEY SPEAK.

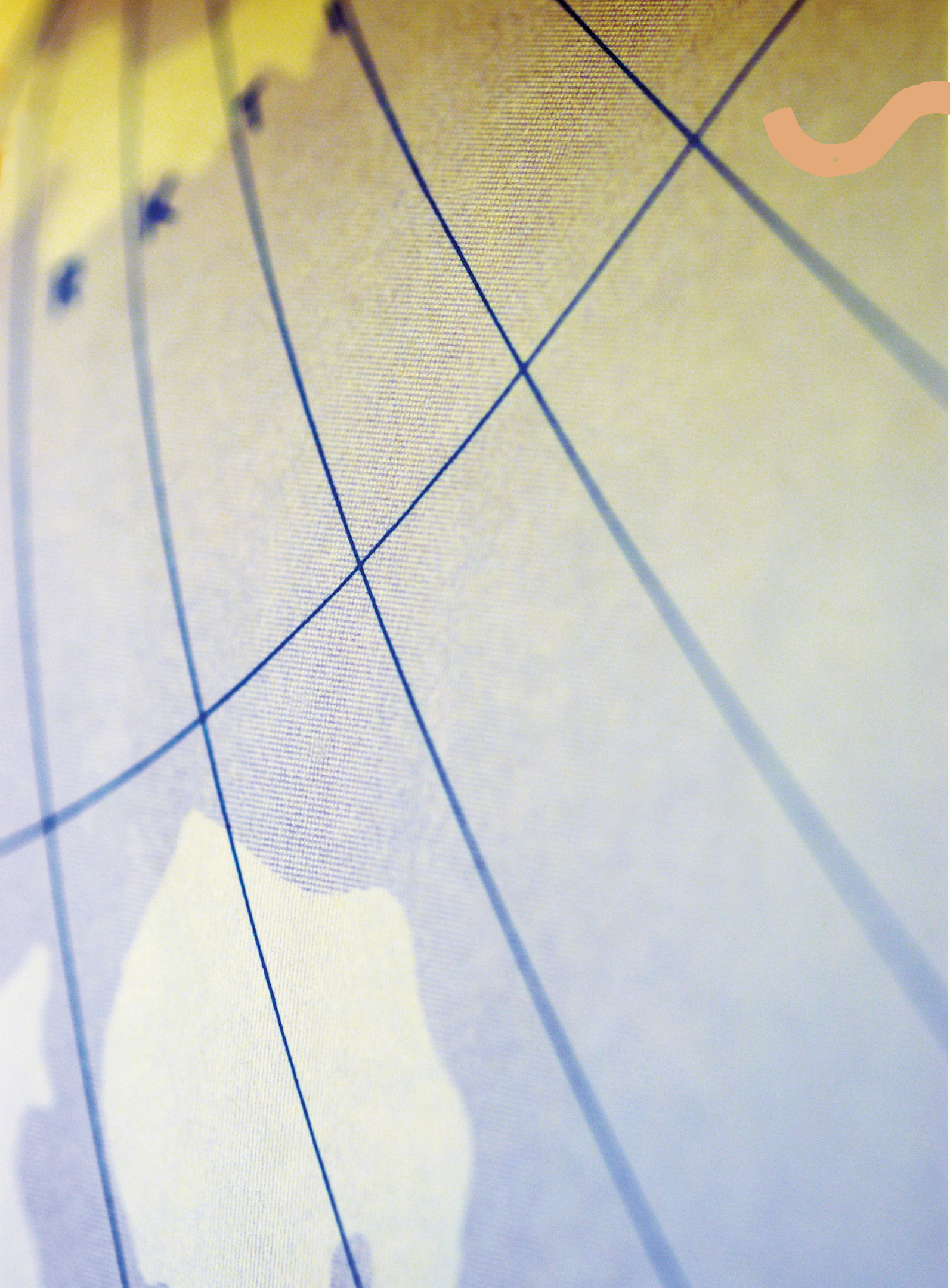
Coordinates mark where the latitude and longitude of a place intersect on a map.



LATITUDE

LATITUDE REFERS TO A SERIES OF IMAGINARY EAST-WEST LINES ENCIRCLING THE EARTH.

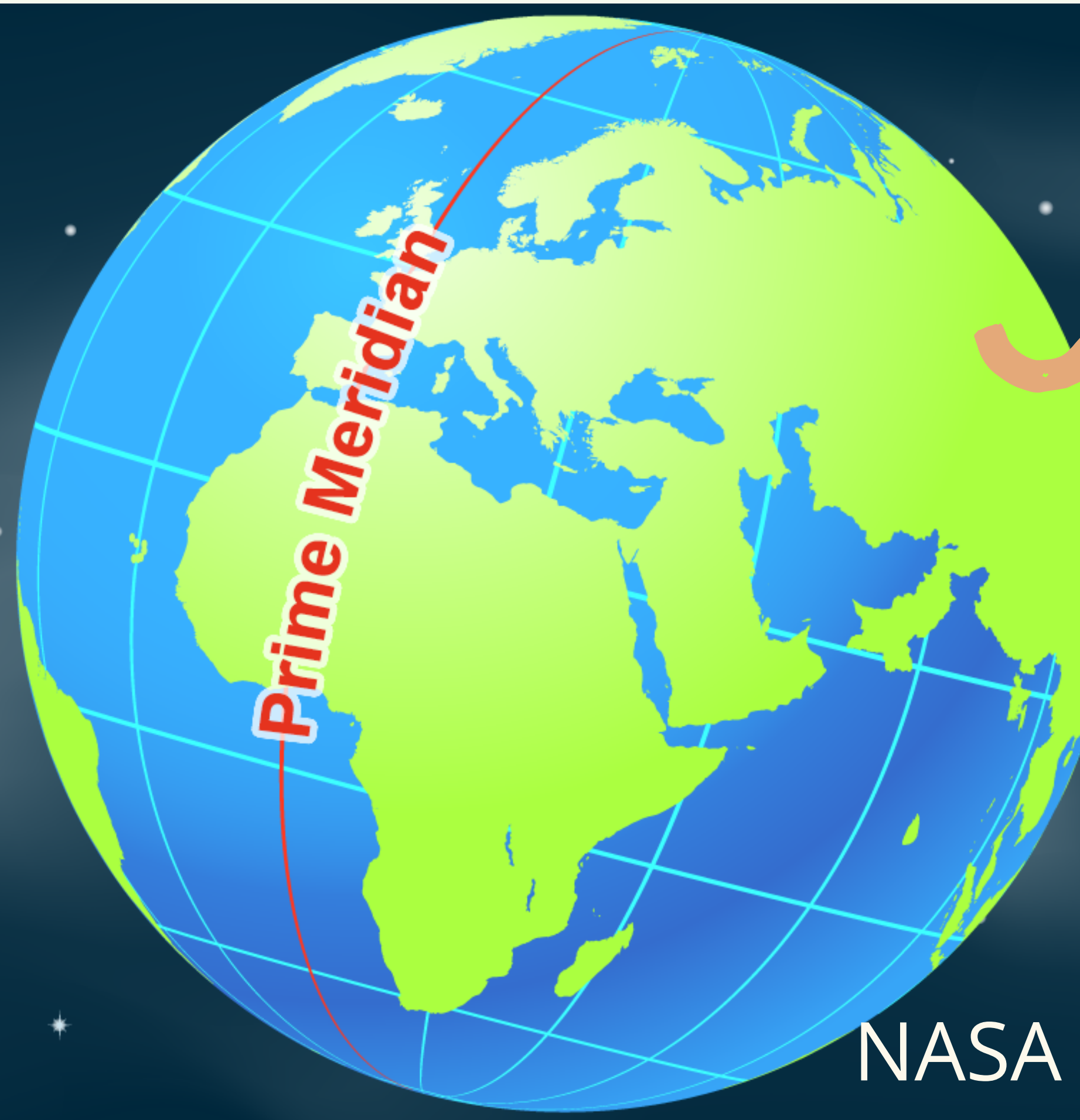
They are called "parallels" because they run parallel to the equator. Each parallel has a number -- a degree -- that indicates its distance from the equator, either north or south. All of the locations on a parallel have the same latitude.



LONGITUDE

LONGITUDE REFERS TO A SERIES OF IMAGINARY NORTH-SOUTH LINES -- CALLED "MERIDIANS" -- THAT STRETCH BETWEEN THE NORTH POLE AND THE SOUTH POLE.

Each meridian has a degree number that indicates its distance from the "Prime Meridian."



THE PRIME MERIDIAN

THIS IS THE PLACE CHOSEN AS ZERO LONGITUDE. THE PRIME MERIDIAN LINE RUNS VERTICALLY, NORTH AND SOUTH FROM THE NORTH POLE TO THE SOUTH POLE.

Just like with parallels, every location on the same meridian line has the same longitude.



THE GRID

MAPS SHOW LONGITUDE LINES GOING NORTH AND SOUTH, AND LATITUDE LINES GOING EAST AND WEST.

This is known as the grid, and grid systems help us to pinpoint locations by showing us where the lines cross.



FINDING THE EXACT LOCATION

LOCATION

YOU CAN FIND THE EXACT LOCATION OF ANY PLACE ON EARTH WHEN YOU KNOW WHERE ITS LATITUDE AND LONGITUDE INTERSECT.

For example, Death Valley, California, is at 36 degrees north (latitude) and 116 degrees west (longitude).





NAVIGATING WITHOUT COORDINATES

**IN THE EARLY DAYS, SAILORS MEASURED
LATITUDE BY LOOKING AT THE SUN'S POSITION
IN THE SKY.**

They would estimate their longitude by checking the position of the stars in the sky. But it was very easy to make a mistake if the sky was cloudy or the weather was bad.



GPS

TODAY, WITH HELP FROM SATELLITES FLYING ABOVE THE CLOUDS, GPS (GLOBAL POSITIONING SYSTEM) SYSTEMS TELL US THE EXACT LOCATION OF A PLACE WHETHER IT IS CLOUDY OR SUNNY.

They do this by pinpointing its exact latitude and longitude.