visible light the light you see with

your eyes reveals only one part of the

universe when clouds of gas and dust

block the light emitted by distant

objects astronomers can explore by using

radiation from elsewhere on the

electromagnetic spectrum in x-ray radio

and other wavelengths the infrared is

where the energy from many astronomical

objects can be detected in fact star

formation regions Centers of galaxies

and other celestial phenomena who's

visible like can't get through the dust

and gas cloud surrounding them can only
be studied in the infrared astronomers

will soon have at their disposal NASA's stratospheric Observatory for infrared astronomy the biggest and most powerful airborne observatory in the world sofia is a great addition to our suite of Great observatories it adds infrared capability but unlike Hubble and Chandra Sofia comes home every day it is a 747 plane in which we have put a two and a half meter infrared telescope and we've configured it to have a door in the back of the plane that we can open in flight to observe the universe in the front of
Sofia scientists will conduct their astronomical observations in a pressurized shirtsleeve environment. Behind the bulkhead Sophie is a 100 inch diameter reflecting telescope that gaze out into the universe at some 35,000 to 45,000 feet above sea level, the highest a passenger aircraft can fly. The important part of Sofia is that it flies above 99.99 percent of all the water in the Earth's atmosphere so we can observe the infrared universe without being blocked by the Earth's atmosphere when it becomes operational in 2010.
Sophia will fly out of NASA's Dryden aircraft operations center about 100 nights a year during its expected 20-year lifetime. Sophia will make great observatory class astronomical science by seeing the heavens in a different life will be able to study how the molecules come together to form stars and planets will be able to study the process of water and other prebiotic molecules as they're created in stellar systems and then it propagated throughout the galaxy will be able study the energetics and the quasars and the black hole engines at the Centers of...
58 00:02:51,469 --> 00:02:58,150
galaxies outside of our own for more on

59 00:02:54,680 --> 00:02:58,150
Sofia log onto

60 00:03:07,689 --> 00:03:09,750
you