



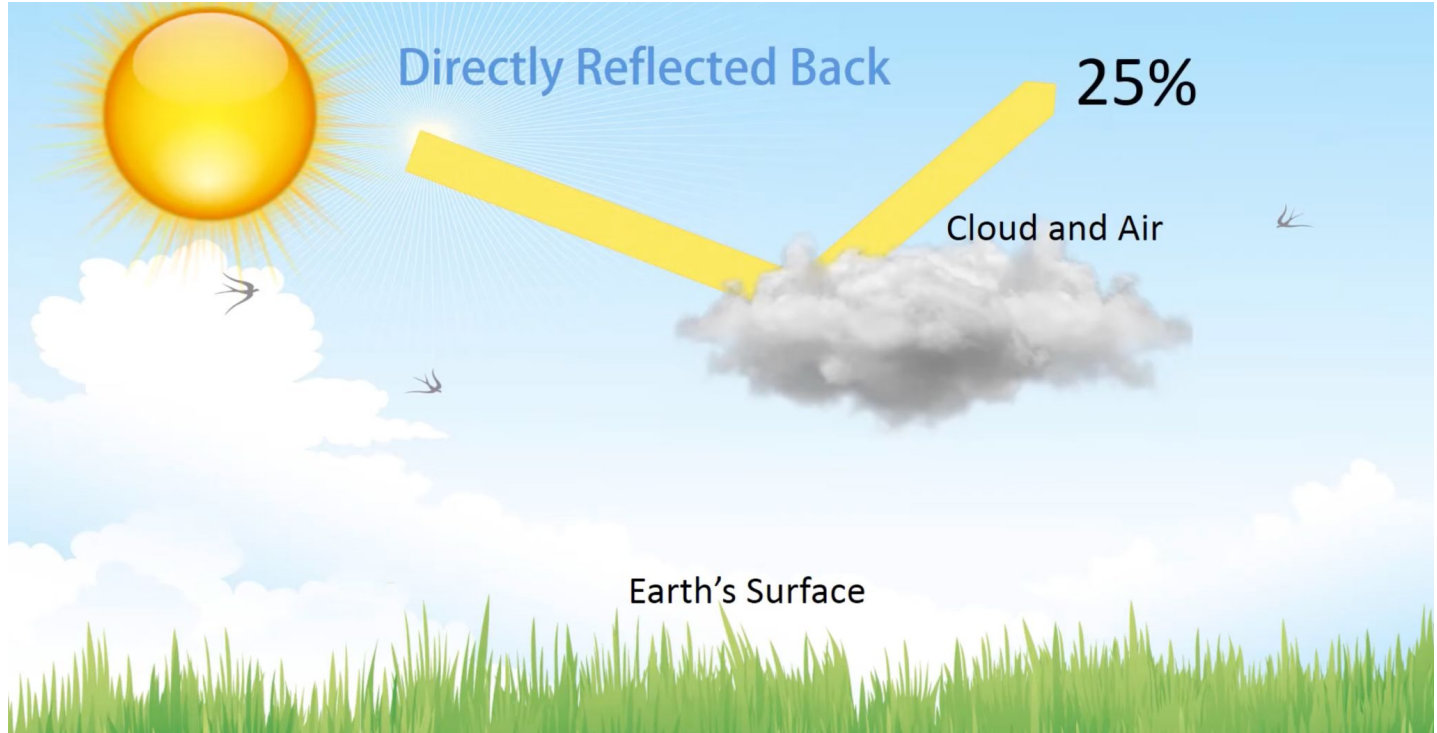
# Why Do We Study Clouds

Understanding clouds is essential for forecasting **weather conditions**, modelling the impacts of future **climate change** and predicting the availability of **water resources**.

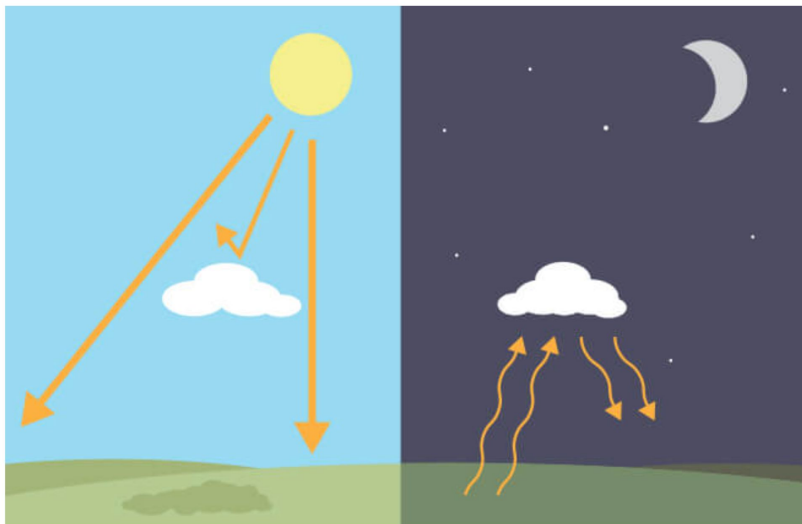


At any given time only about **0.001 percent** of Earth's water is in the form of atmospheric vapour (clouds). Yet, evaporation and precipitation (rain) is the primary source of freshwater, which is essential for life on Earth.

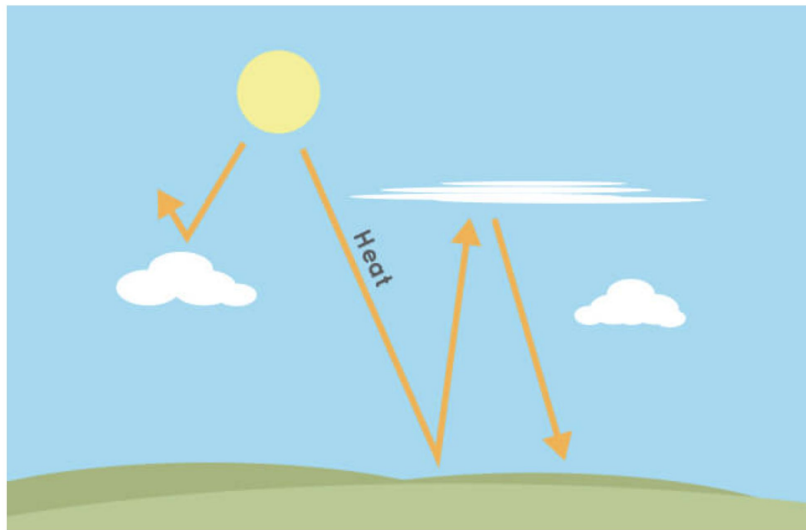
Clouds do more than bring rain. Clouds also act as an **“atmospheric blanket”** that helps to regulate the temperature at Earth’s surface. During the day, clouds reflect a portion of the solar energy that reaches Earth back into space. This prevents the Earth from becoming too warm.



Clouds can also act like a **greenhouse**, trapping heat on Earth by absorbing the heat released by the surface of the planet. They radiate this heat back toward Earth, warming the lower regions of the atmosphere.

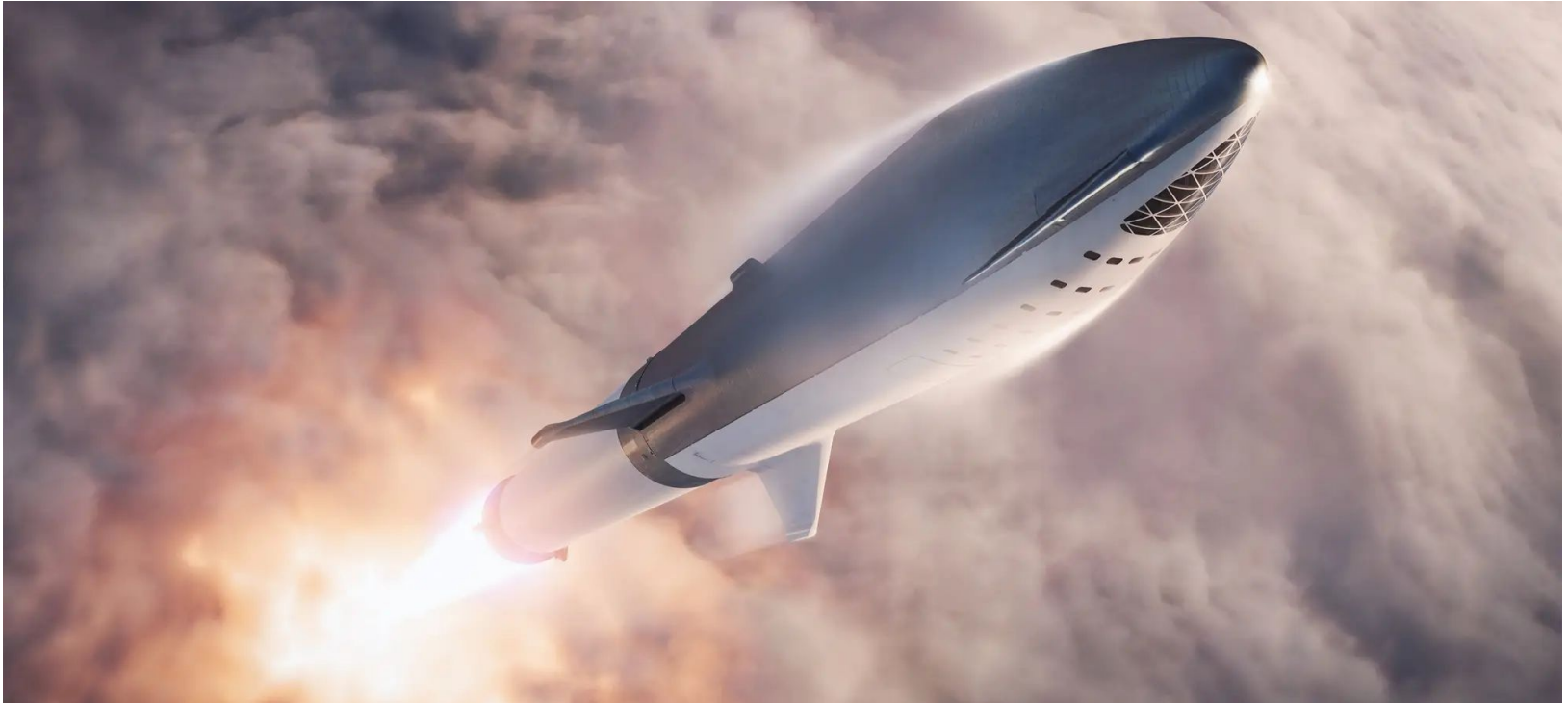


*During the day, clouds can make the temperature on Earth cooler by blocking heat from the Sun. At night, clouds can make Earth's temperature warmer by trapping heat that came from the Sun. Credit: NASA/JPL-Caltech*



*Wispy clouds high up in the atmosphere generally make an area warmer. Lower-altitude clouds tend to help an area cool off. Credit: NASA/JPL-Caltech*

We are increasingly traveling by airplane and soon by rocketship to space. These forms of transportation are critically dependant on weather conditions. We must be able to accurately forecast weather conditions in order to travel safely.





Throughout history, clouds have inspired artists, poets, musicians, photographers. Clouds are an always evolving wonder of nature that are universal to all parts of the world.



**Wheat Field With Cypresses**  
**(1889) Vincent Van Gogh**



**Wheat Fields**  
**(1670) Jacob van Ruisdael**



**Castle in the Sky (Studio Ghibli)**  
**(1986) Hayao Miyazaki**

Visual artist **Berndnaut Smilde** uses the creation of artificial clouds indoors as his medium to capture surreal photographic images.



**Have clouds ever been  
important in your daily life?  
Why were they important?**