

ATMOSPHERIC AEROSOLS

These are fine particles suspended in the atmosphere. Their size is in the micrometer range. Their life in the atmosphere is of the order of 1 to 2 weeks in the troposphere (the lower part of the atmosphere) and 1 to 2 years in the stratosphere (the upper part of the atmosphere).

SOURCE OF AEROSOLS

There are many types of aerosols.

Some are natural, such as:



Desert dust



Volcanic ashes



Smoke from fires



Factory emissions



Vehicle Exhaust



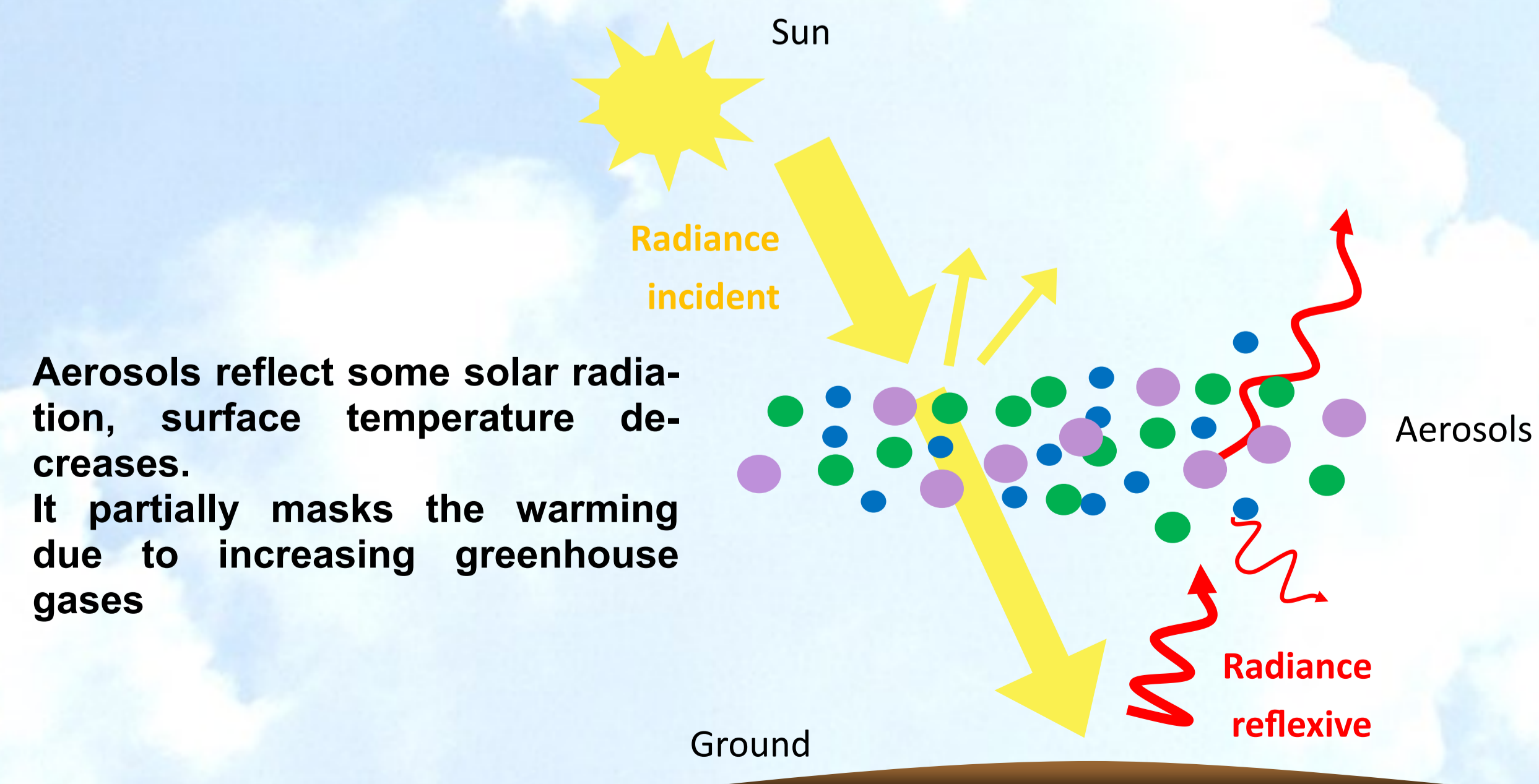
Aircraft contrails

Some are of anthropogenic origin such as:

IMPACTS OF AEROSOLS IN THE ATMOSPHERE

Aerosols affect Earth's radiation balance

Direct effect: By absorption and / or diffusion of part of the solar and terrestrial radiation



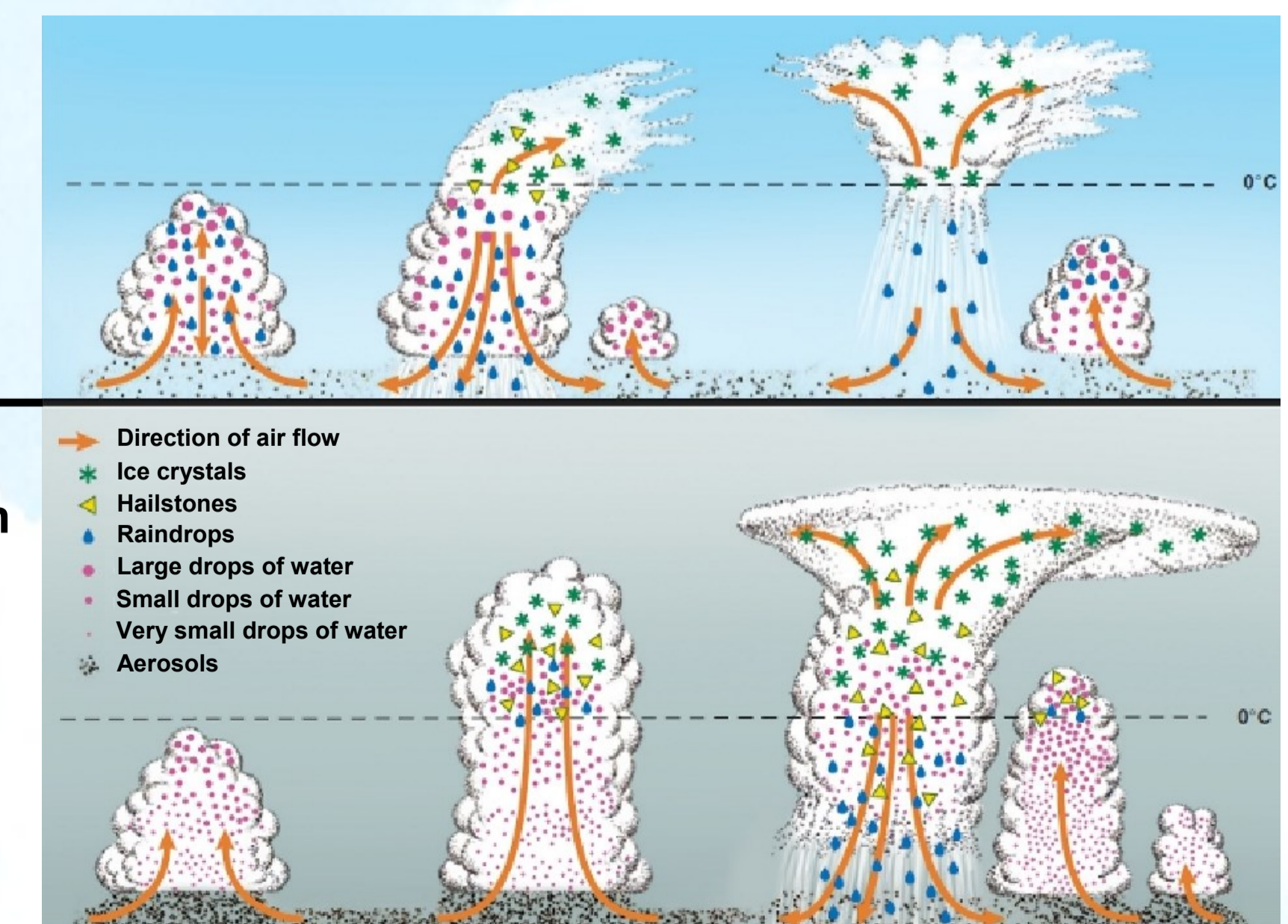
Aerosols reflect some solar radiation, surface temperature decreases. It partially masks the warming due to increasing greenhouse gases

Indirect effect : Aerosols are involved in the formation of clouds

Training precipitating clouds.

In slightly polluted environment

In a polluted environment and rich aerosols. The height of the cloud is more important and more intense precipitation.



© Rosenfeld et al. 2008 - Science