



Particulates Effect on Rainfall

Animations by Susan Twardy on December 9, 2003



This is the standard definition version of the Particulates Effect on Rainfall animation MPEG.

[Download](#) ▼

Normal rainfall droplet creation involves water vapor condensing on particles in clouds. The droplets eventually coalesce together to form drops large enough to fall to Earth. However, as more and more pollution particles (aerosols) enter a rain cloud, the same amount of water becomes spread out. These smaller water droplets float with the air and are prevented from coalescing and growing large enough for a raindrop. Thus, the cloud yields less rainfall over the course of its lifetime compared to a clean (non-polluted) cloud of the same size. The split screen compares a normal rain producing cloud (left) with the lack of rain produced from a cloud full of aerosols from pollution.

Animation Credits

Susan Twardy (HTSI): Lead Animator

J. Marshall Shepherd (NASA/GSFC): Scientist

Kathryn A. Stofer: Writer

Please give credit for this item to:

NASA/Goddard Space Flight Center Conceptual Image Lab

[Additional Details](#)