



Twomey effect demonstration

The jar on the left contains 4 mm glass balls. The grey scale behind the jars has 10 bars going from roughly zero to nearly 100% whiteness depending on your printer and paper quality. This shows that the albedo of the 4 mm balls is about 0.6.

The jar on the right contains 40 micron glass balls, one hundred times smaller, and has an albedo of about 0.95. giving an interesting small-scale demonstration of the Twomey effect of a small number of larger spheres looking darker than a larger number of smaller ones. The same happens with drops in clouds. When they get large enough to fall as rain we say that the dark storm-clouds are gathering.

The contrast change needed to retain constant world temperatures despite a doubling of pre-industrial CO₂ would be below the detection threshold of the human eye.