Albedo Encyclopedia Article

Albedo

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Albedo

The reflecting power of a surface, expressed as a ratio of reflected radiation to incident or incoming radiation; it is sometimes expressed as a percentage. Albedo is also called the "reflection coefficient" and derives from the Latin root word *albus*, which means whiteness. Sometimes expressed as a percentage, albedo is more commonly measured as a fraction on a scale from zero to one, with a value of one denoting a completely reflective, white surface, while a value of zero would describe an absolutely black surface that reflects no light rays.

Albedo varies with surface characteristics such as color and composition, as well as with the angle of the sun. The albedo of natural earth surface features such as oceans, forests, deserts, and crop canopies varies widely. Some measured values of albedo for various surfaces are shown below:

Types of Surface	**Albedo**
Fresh, dry snow cover	0.80–0.95
Aged or decaying snow cover	0.40–0.70
Oceans	0.07–0.23
Dense clouds	0.70–0.80
Thin clouds	0.25–0.50
Tundra	0.15–0.20
Desert	0.25–0.29
Coniferous forest	0.10–0.15
Deciduous forest	0.15–0.20
Field crops	0.20–0.30
Bare dark soils	0.05–0.15

The albedo of clouds in the **atmosphere** is important to life on Earth because extreme levels of radiation absorbed by the earth would make the planet uninhabitable; at any moment in time about 50% of the planet's surface is covered by clouds. The mean albedo for the earth, called the planetary albedo, is about 30–35%.