

Dust and Sandstorms Phenomena

Dust and Sandstorms (DSS) have been understood as a natural phenomenon of wind carrying dust from the Yellow River basin, deserts etc. Recently however, their frequency and the intensity have been increasing, highlighting DSS's relation to the soil degradation caused by rapidly expanding overgrazing and to the increasing conversion of land for agricultural use.

It is now regarded that DSS is an environmental problem due to human's impact caused by forest reduction, soil degradation, and desertification, rather than being simply a natural seasonal phenomenon.



Scenes before and after a dust storm
(Cele, in the southern part of the Takla Makan Desert in China)



Imminent dust storm
(Southern part of Mandalgobi in Mongolia)

What is DSS?

DSS is a phenomenon of wind-borne soil and mineral particles raised thousands of meters into the air in the arid and semi-arid regions inland China, such as the Takla Makan and Gobi deserts and the Loess Plateau. They arrive at Japan by prevailing westerlies, suspending in the air or falling to the ground.

Wind-borne DSS not only seriously damage agricultural production and living conditions in the DSS source area but also impacts global climate by forming clouds of DSS suspended particulate acting as nuclei to form precipitation.

It is also thought that the particulate falls to the ocean and significantly affects the oceanic ecosystem by altering the mineral supply to surface plankton, but its impact has not yet been understood.



A MODIS image, March 31, 2002
A MODIS data analysis result obtained from the Integrated Environmental Monitoring (IEM) of the Asia-Pacific Environmental Innovation Strategy Project (APEIS).

DSS originating source area

