Scientists vacuum up the data on dust

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(AP) -- While most people give it the brushoff, a panel of scientists gathered Friday to focus on dust. Dust in the air. Dust in the oceans. Dust in your lungs. Good dust. Bad dust. And not a can of Pledge in sight.

The scene, a conference room at the annual meeting of the American Association for the Advancement of Science in usually sunny Southern California, the land where recent wildfires filled the air with smoke and dust.

Some researchers found fault with dust - "geotoxicology" Geoffrey S. Plumlee of the U.S. Geological Survey calls it.

But turns out dust can fertilize land and the ocean, aiding some types of sea life.

While it seems climate changes affect the amount of dust in the air, the effect of dust on climate change is less clear.

And historical studies indicate that ice ages were surprisingly dusty.

On the down side, Plumlee reports that the air you breathe can have a "breathtaking" array of particles in it.

The soil fungus that causes valley fever in the Southwest, for example, is carried in windblown dust. And increases in dust in the air lead to higher rates of hospital admissions for things like asthma, he added.

Other bad effects can range from increased heart attack risk to cancers and scarring of the lungs.

Most public health focus has been on particulates from human sources, such as from combustion of fossil fuels, but there is increasing attention to potential health effects from dust from such sources as volcanic ash or of smoke and ash from wildfires, he said.

Daniel R. Muhs, also from the Geological Survey, disclosed that studies of ocean sediments and Antarctic ice shows that ice ages were even dustier than today.

Glaciers are major producers of dust by grinding over rocks, he explained. Muhs pointed out that water flowing from beneath glaciers is often milky from the dust enclosed, not clear. In addition, he said, glacial periods were drier and thus places like Africa had less vegetation and the wind could stir up more dust.

Speaking of African dust, it may be beneficial by fertilizing regions such as the Amazon basin, said Oliver Chadwick of the University of California, Santa Barbara. Even Hawaii, one of the world's least dusty places, has forests fertilized by blown-in dust, he said.

Dust is largely generated in deserts and their fringe, but also where agriculture opens soil to the wind and good topsoil can blow away, Chadwick said.

That's what happened in the United States Dust Bowl of the 1930s.

Joseph M. Prospero of the University of Miami who claimed to have been collecting dust longer than anyone on the panel, reported that the frequency of Africa dust arriving there today is higher than in the past.

Ten to 20 times a year the Environmental Protection Agency standards for dust in the air are exceeded in South Florida and the Caribbean, he said.

Dust can have a variety of impacts including fertilizing the ocean with iron, added Natalie Mahowald of Cornell University in Ithaca, N.Y.

"These particles can be carried for thousands of miles in the atmosphere, and during that time can interact with chemistry, clouds and radiation to modify climate," she said in prepared remarks.

Dust can be both good and bad, concluded Muhs, threatening health yet fertilizing land and ocean. It also affects the Earth's radiation, which is currently undergoing a warming due to human-induced gases being added to the atmosphere.

Over dark surfaces that absorb heat from the sun dust can have a cooling effect by reflecting light, but it can also warm other areas.

In the end, the answer is blowing in the wind, said panel moderator Tim Radford, former science editor of The Guardian newspaper in England, quoting Bob Dylan.