

ATTACHMENT J



Aura

Atmospheric Chemistry

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The greenhouse effect of tropospheric ozone

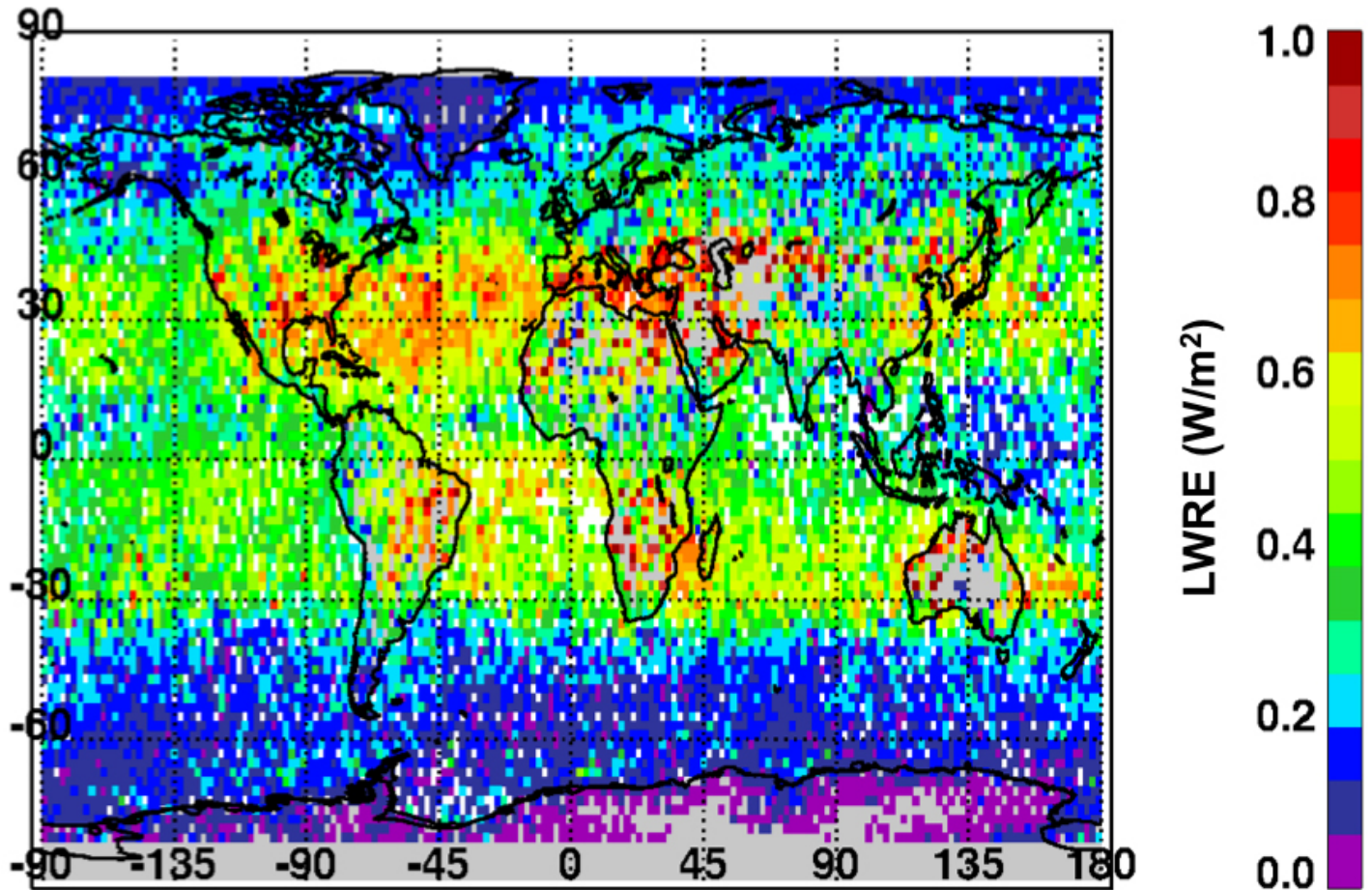
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Tropospheric ozone (O₃) is the third most important anthropogenic greenhouse gas after carbon dioxide (CO₂) and methane (CH₄). Ozone absorbs infrared radiation (heat) from the Earth's surface, reducing the amount of radiation that escapes to space.

This map shows the longwave radiative effect (LWRE) of infrared radiation absorbed by tropospheric ozone in Watts/meter² as estimated from Aura's Tropospheric Emission Spectrometer (TES) top-of-atmosphere (TOA) observations. Data are averaged for August 2006 and include both clear-sky and cloudy scenes. Areas with no data are indicated in white over oceans and grey over land.

Higher values of trapped infrared radiation are caused by lofted ozone pollution in the northern mid-latitudes and from sources of biomass burning in the southern hemisphere.

This map shows the longwave radiative effect of infrared radiation absorbed by tropospheric ozone as estimated from TES top-of-atmosphere observations.



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