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Measurements Supported by the US National Science Foundation
More Information Contact: Terry Deshler

Aerosol profiles from a balloon flight from Niamey, Niger, (13.5°N, 2.2°E) on 9 September 2008 (01:43-03:23 UT). The measurements included condensation nuclei (CN), aerosol between 0.15 and 10.0 μm in radius in 12 sizes, ozone, and pressure/temperature. The aerosol instruments are built by the University of Wyoming, the ozone sensor is an ENSCI electrochemical concentration cell using 0.5% KI, and the pressure/temperature sensor is from Vaisala.

The flight was truncated early (~ 19 km) due to a mistake in setting the cut down timer too short.

There are 3 figures shown:

1) ascent and descent aerosol concentration profiles vs altitude,
2) ascent and descent aerosol mixing ratio profile vs potential temperature
3) comparison of the ascent descent profiles for CN and for four channels of the aerosol counter, 0.15, 0.25, 0.50, 1.08 μm.

The CN instrument is saturated in the troposphere when concentrations are above ~ 500 cm^{-3}, thus the constant value at over 100 cm^{-3}. This occurs because, to limit gondola size and weight, the dilution valve, normally used in Laramie, is not included.

Updated: 14 Nov 2008

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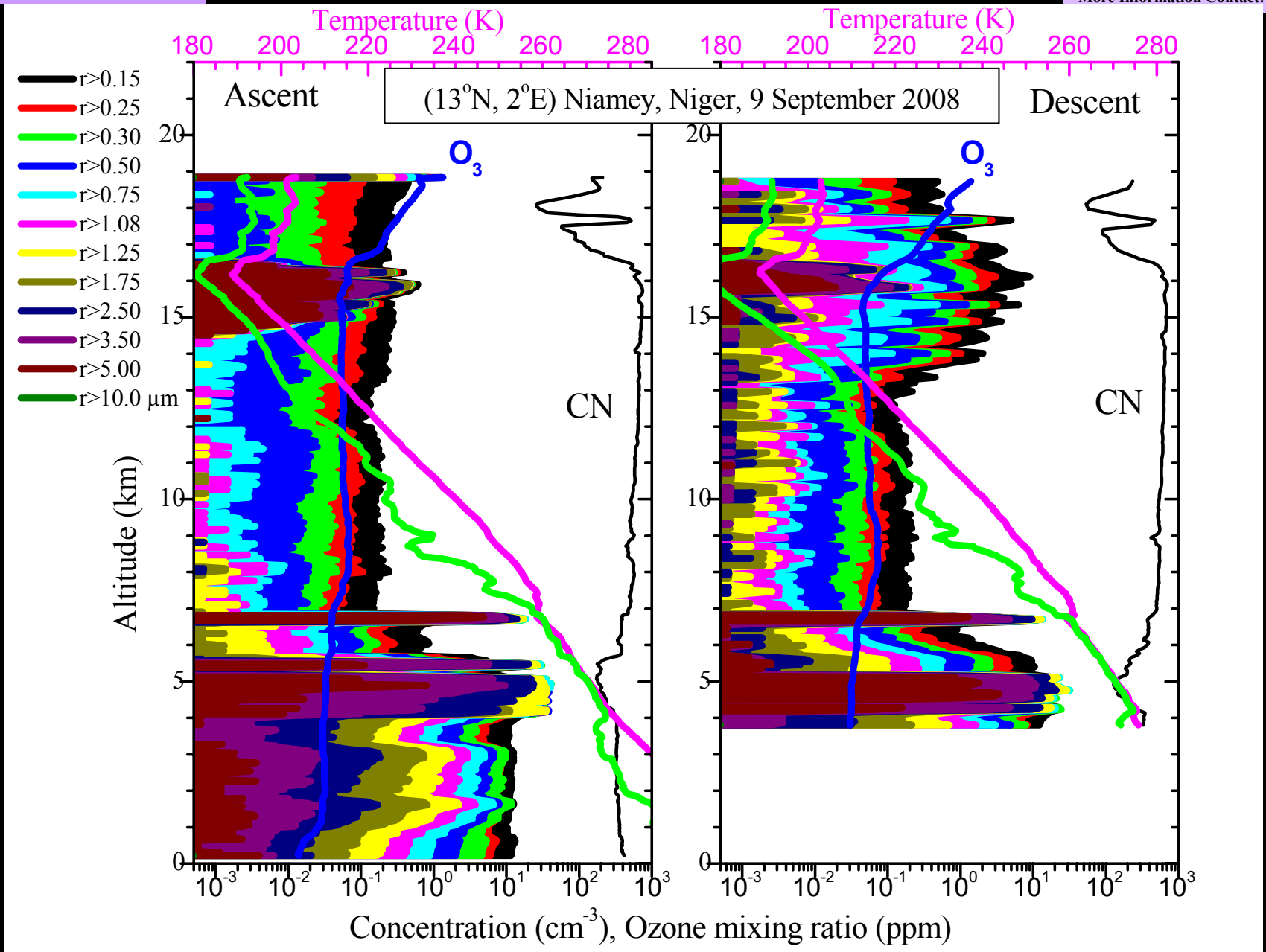

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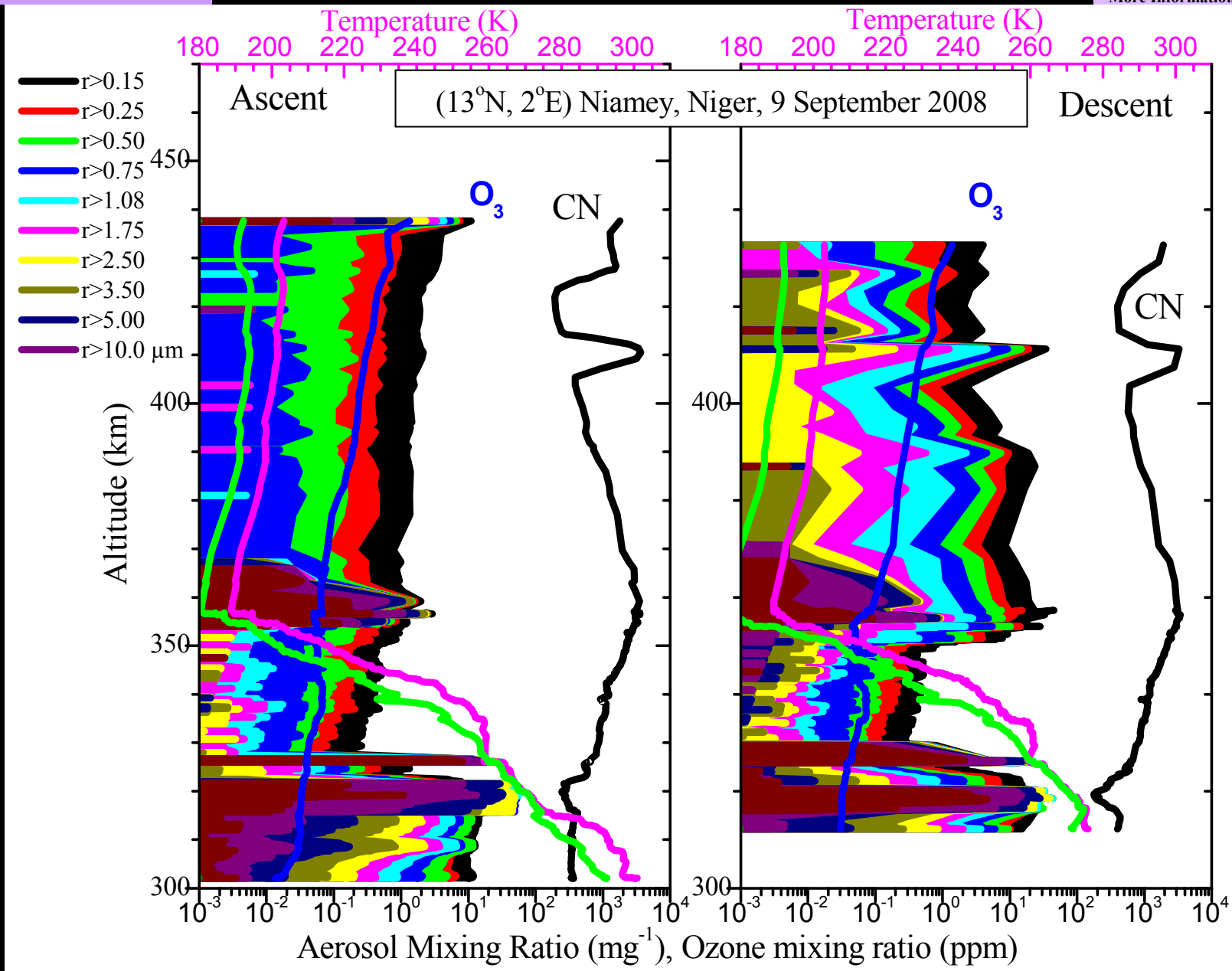

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