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Atmospheric  
Measurement  
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Discussions



*Supplement of*

## **Development and characterisation of a state-of-the-art GOME-2 formaldehyde air-mass factor algorithm**

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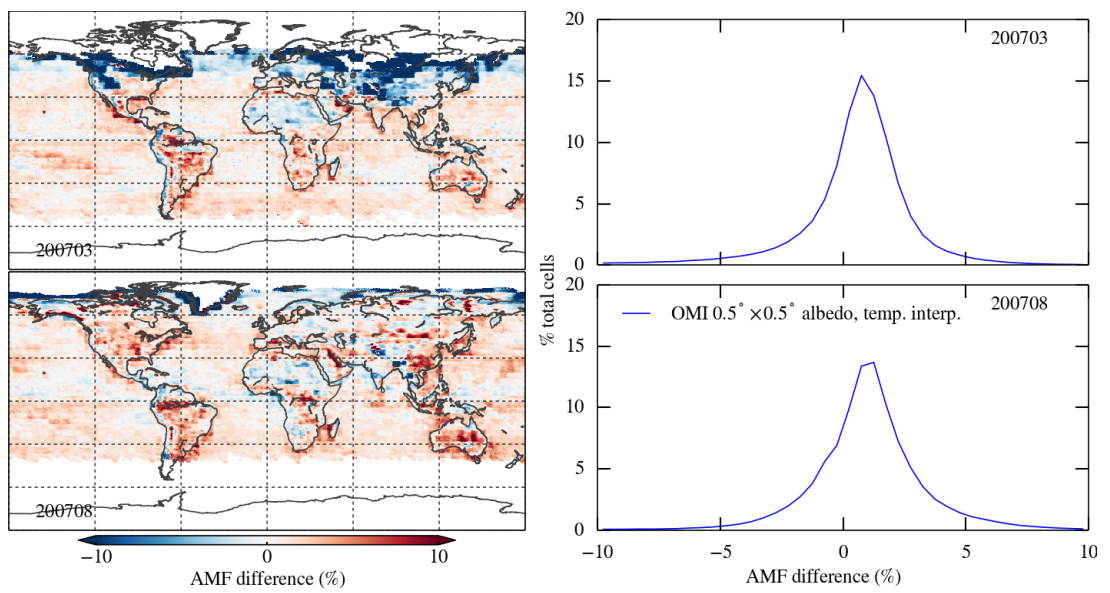


Figure 1: Left: spatial maps of the AMF differences, relative to the default UoL AMF algorithm, resulting from the use of the temporally interpolated and area-weighted OMI  $0.5^\circ \times 0.5^\circ$  342 nm surface albedo (Kleipool et al., 2008), as discussed in section 5.5. The AMFs are gridded on to  $0.25^\circ \times 0.25^\circ$  using observations with cloud fractions  $\leq 40\%$ . Right: corresponding histograms of the AMF differences are shown in blue.

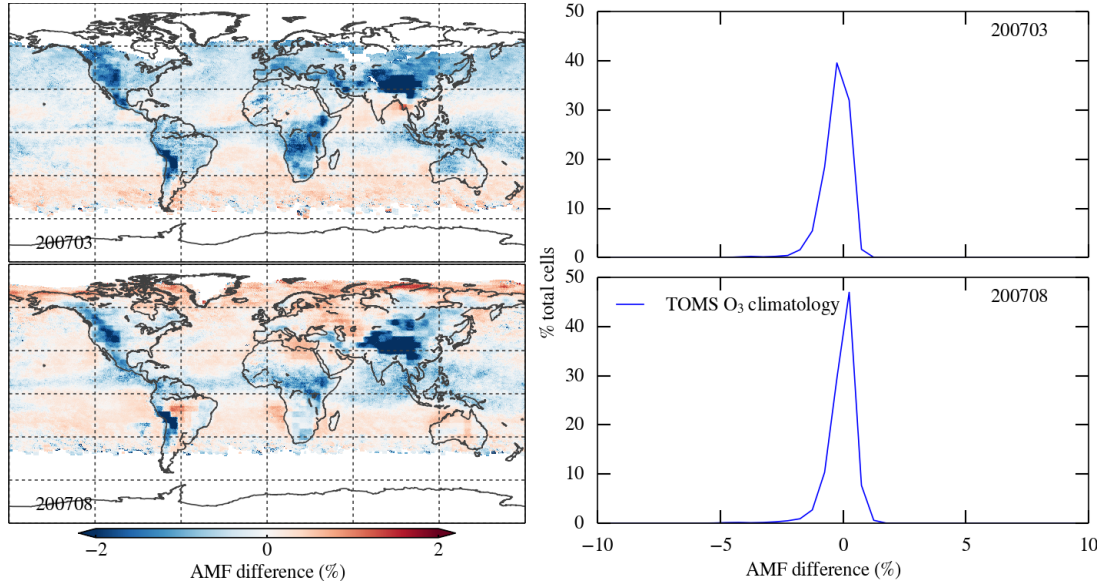


Figure 2: Left: spatial maps of the AMF differences, relative to the default UoL AMF algorithm, resulting from the use of the TOMS ozone climatology, as discussed in section 5.7 of the main text. The AMFs are gridded on to  $0.25^\circ \times 0.25^\circ$  grid using observations with cloud fractions  $\leq 40\%$ . Right: corresponding histograms of the AMF differences are shown in blue.

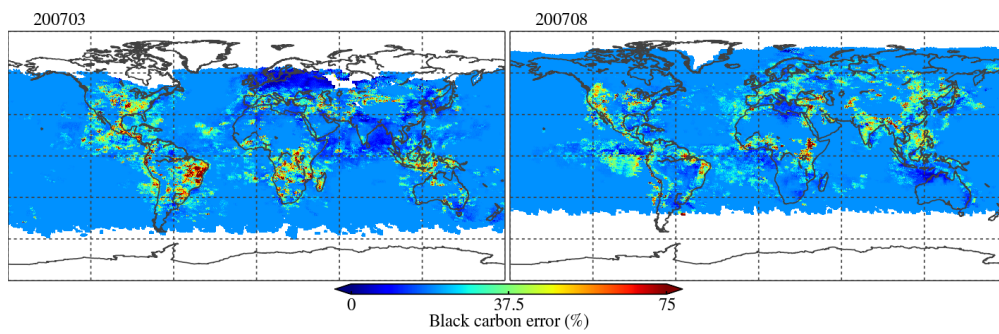


Figure 3: Additional black carbon AMF errors for March 2007 (left) and August 2007 (right) as described in section 6.1. The AMF errors are gridded on to  $0.25^\circ \times 0.25^\circ$  grid using observations with cloud fractions  $\leq 40\%$ .