CARBON MONOXIDE DISTRIBUTIONS FROM THE IASI/METOP MISSION: EVALUATION WITH OTHER SPACE-BORNE SENSORS

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Comparisons with other satellite data; Preliminary cross-validation

1 Month average (August 2008)
CO columns, gridded 1°x1°

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IASI CO total columns, compared to MOPITT, AIRS and TES for August 2008:

For both retrieved CO columns, the comparison shows a RMSD of 0.05 ppmv (6σ of 0.02 ppmv) for the IASI columns over land and 0.06 ppmv (6σ of 0.01 ppmv) over ocean. Agreement between 50% and 80% with TES data is observed only over land while an agreement between 50% and 55% is observed over ocean. IASI AIRS and MOPITT CO gases are obtained at an identical CO distribution which is obtained from an empirical residual model.

FORLI versus EUMETSAT CO total columns

IASI and MOPITT TRENDS

For the period 2005 to 2010, the comparison shows a RMSD of 2 ppbv, or 0.8% of CO2 concentration. For the period 2007 to 2008, the CO2 trend comparison shows agreement between 70% and 80% with TES data. IASI and MOPITT CO gases are obtained at an identical CO distribution which is obtained from an empirical residual model.
