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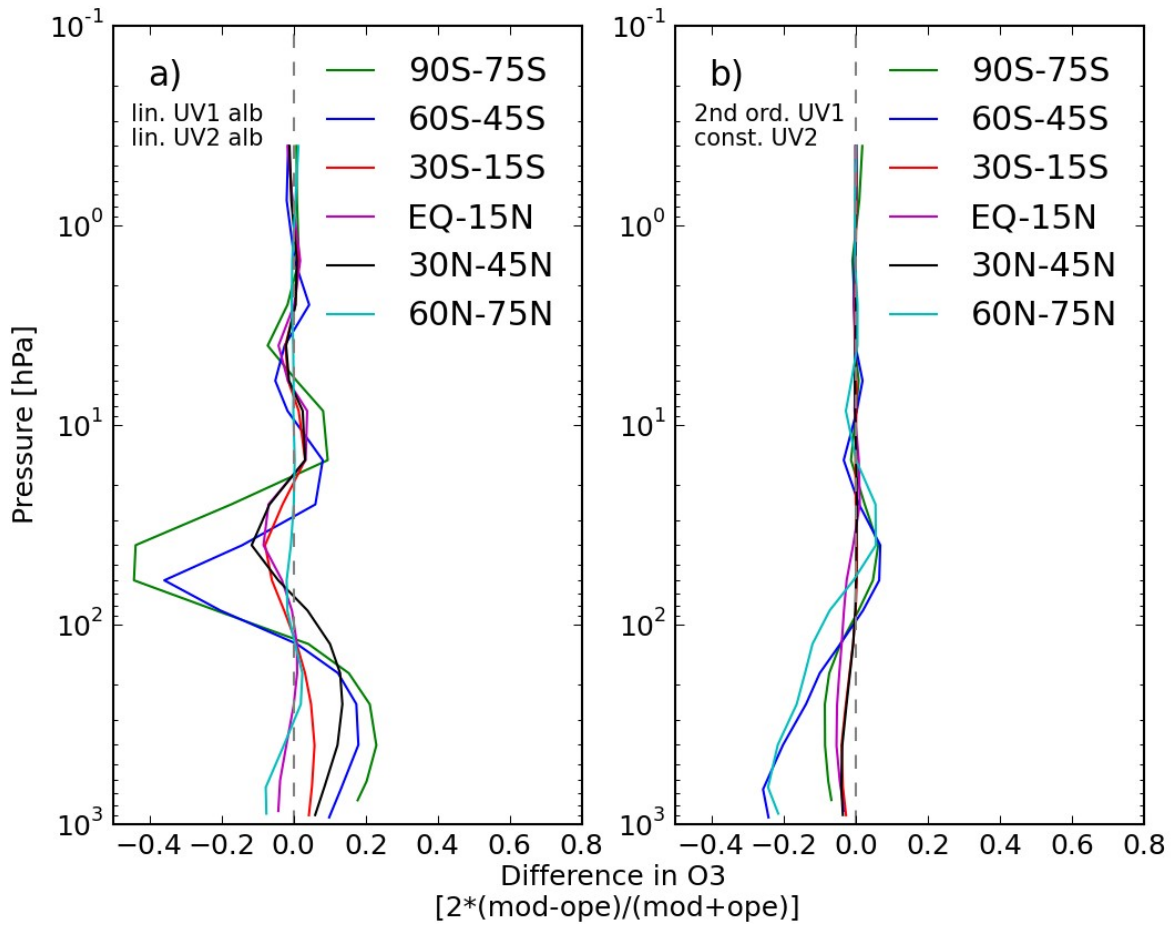


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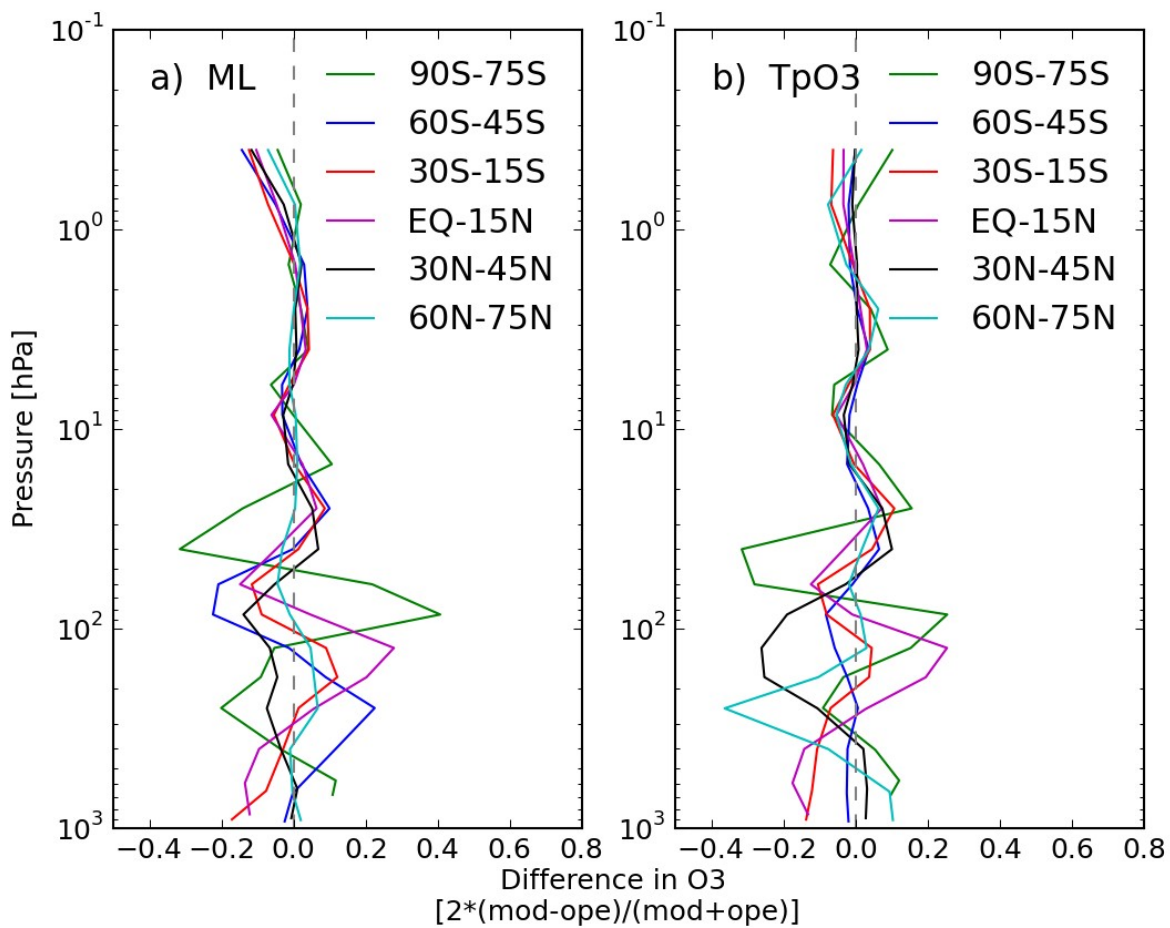
Towards the retrieval of tropospheric ozone with the Ozone Monitoring Instrument (OMI)

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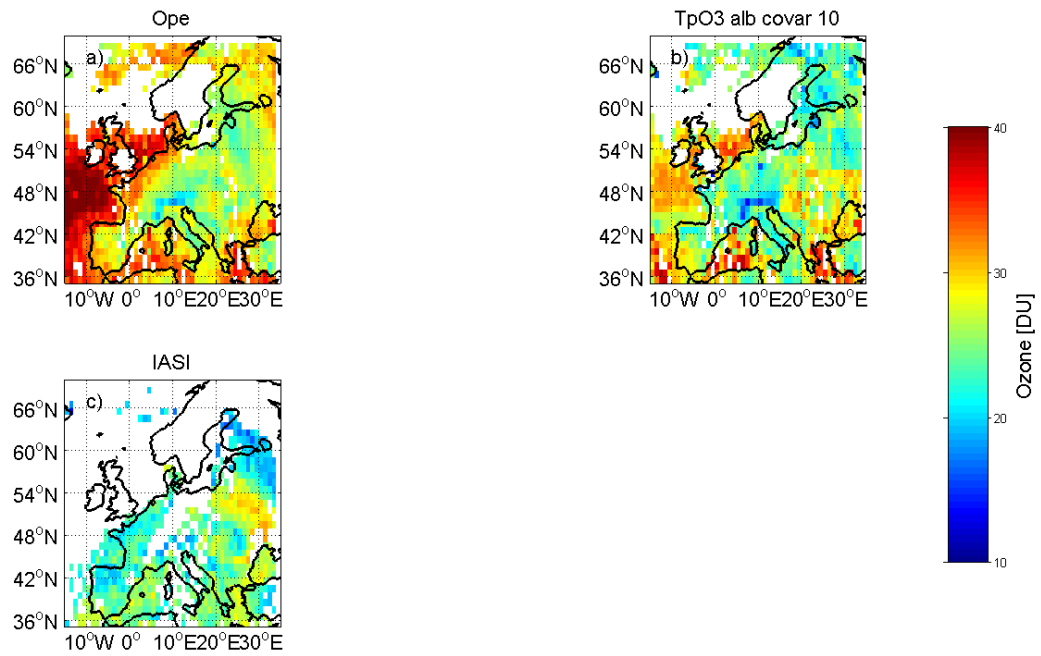
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10 Figure S1. Effect of albedo assumptions at six latitude bands. a) assuming linear albedos at both UV1 and UV2 channels instead of second order polynomials. b) assuming constant albedo at UV2 channel instead of second order polynomial. Mod and ope refer to the modified and operational versions of the algorithm, respectively.



15 Figure S2. Change in ozone profiles when ML (a) and TropO3 (b) are used with the climatological covariance matrices. Mod and ope refer to the modified and operational versions of the algorithm, respectively.



20 Figure S3. Absolute tropospheric ozone abundances (up to 400 hPa) from OMI (a,b) and IASI (c) on July 17, 2007. Two different versions of the OMI retrieval algorithm are shown: Operational (a), and TropO3 climatology, linear albedo in UV2 and climatological error covariance matrix (b). Daily data averaged on 1x1 grid.

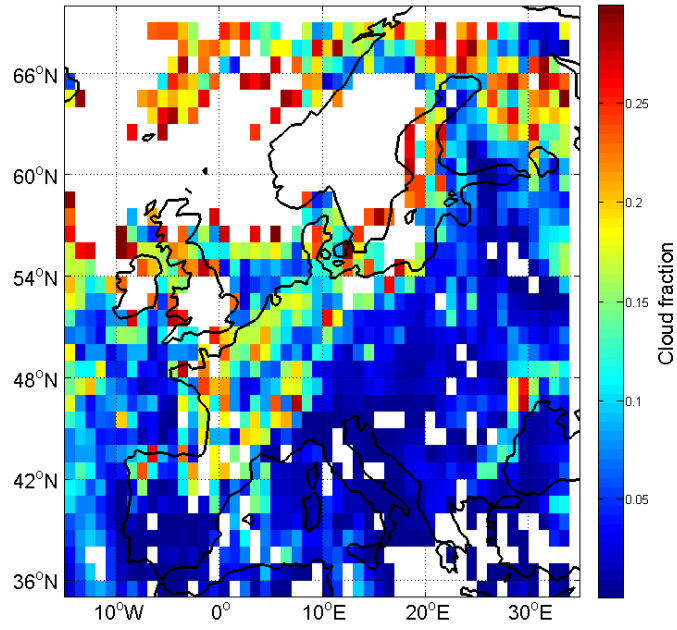
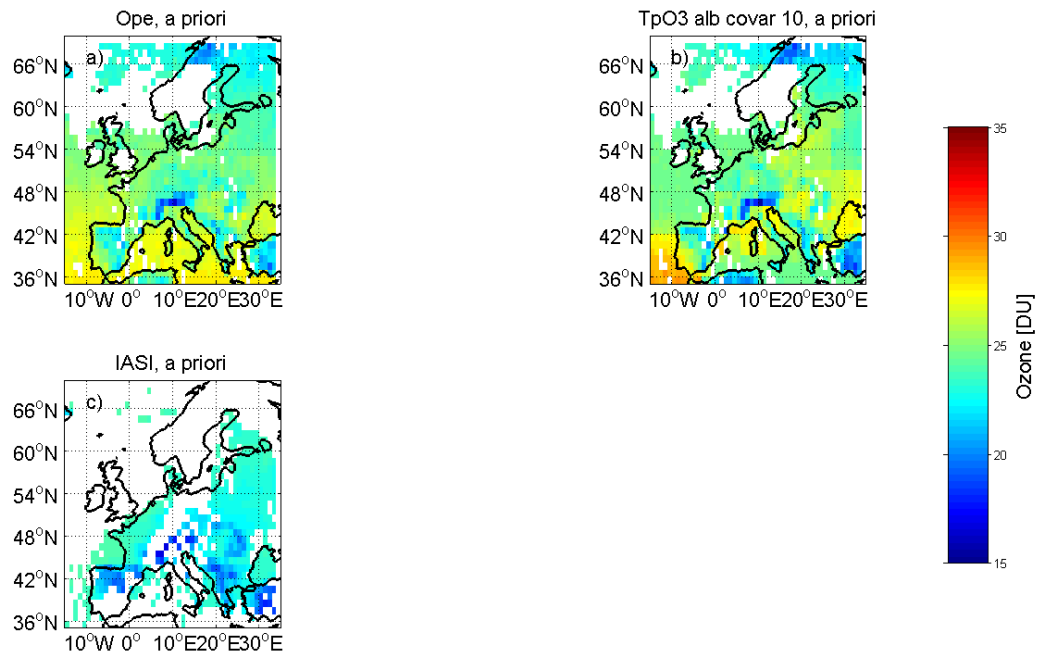
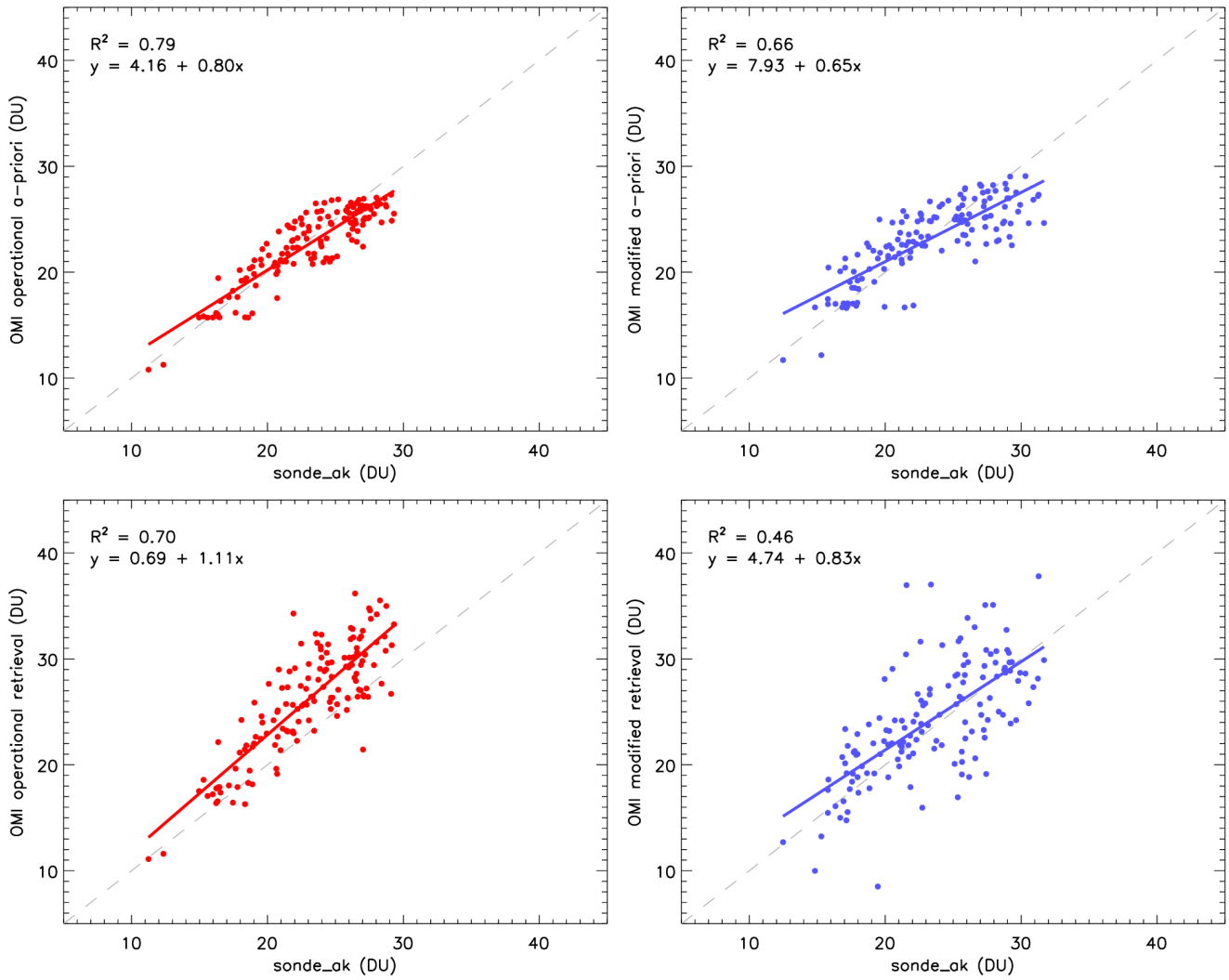


Figure S4. Cloud fraction from OMCLDO2 product on July 17, 2007. Daily data averaged on 1x1 grid.



30 Figure S5. A priori tropospheric ozone abundances (up to 400 hPa) from OMI (a,b) and IASI (c) on July 17, 2007. Two different versions of the OMI retrieval algorithm are shown: Operational (a), and modified that uses TropO3 climatology, linear albedo in UV2 and climatological error covariance matrix (b). Daily data averaged on 1x1 grid.



35 Figure S6. Comparison of tropospheric ozone abundances (up to 400 hPa) from OMI and averaging kernel convolved ozonesondes over North America in August-September 2006. Two different versions of the OMI retrieval algorithm are shown: Operational (red), and modified that uses TropO3 climatology, linear albedo in UV2 and climatological error covariance matrix (blue). A priori values are shown in the upper panels and retrieved values in the lower panels.