

Supplementary Material: Sensitivity of aerosol optical properties to the aerosol size distribution over central Europe and the Mediterranean Basin

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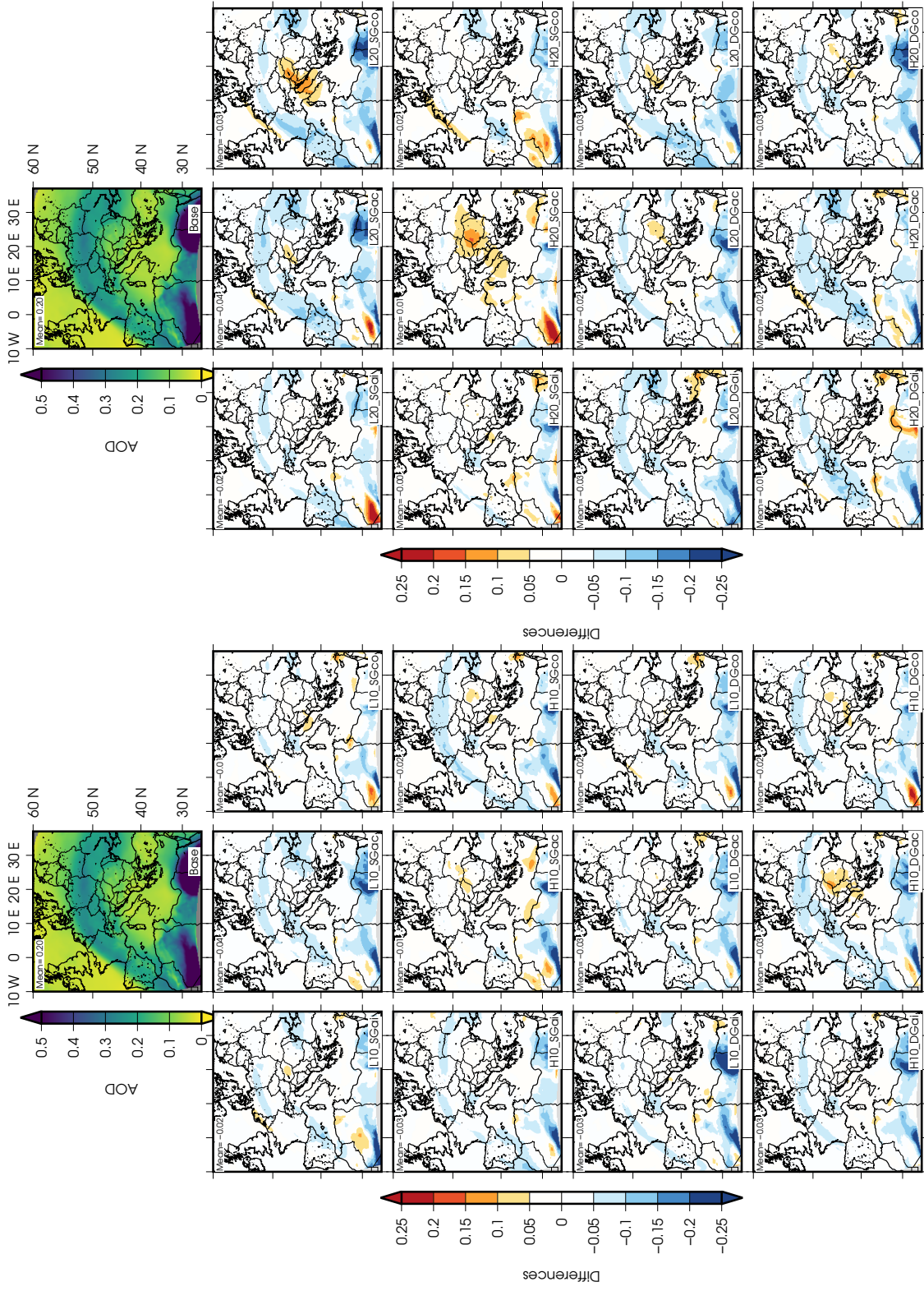


Figure 1. AOD at 550nm and differences for simulations of sensitivity test at 10 (right) and 20% (left).

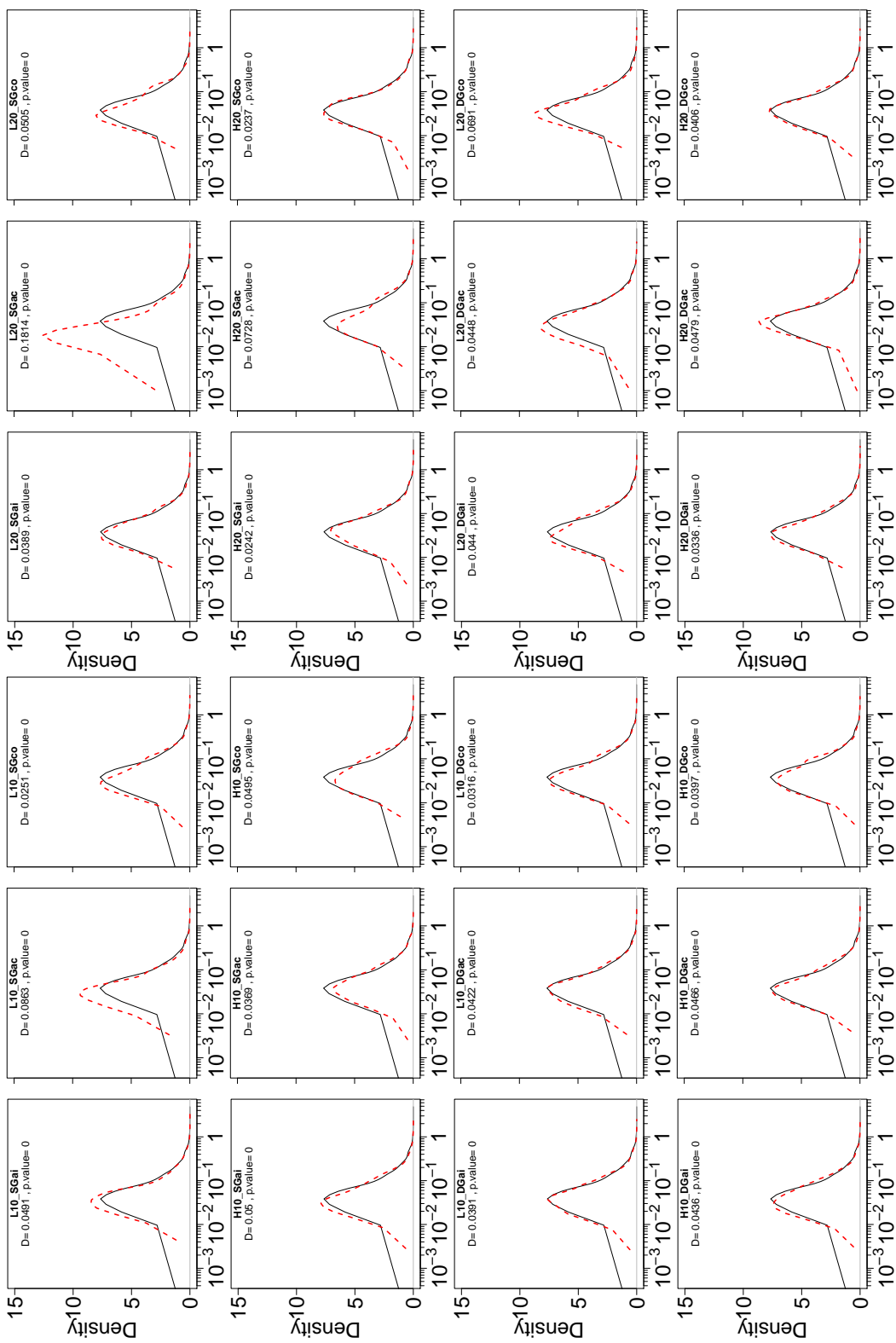


Figure 2. PDF of AOD values for sensitivity test simulations at 10 (right) and 20 % (left). Values in Figures represent the results for the Kolmogorov-Smirnov test.

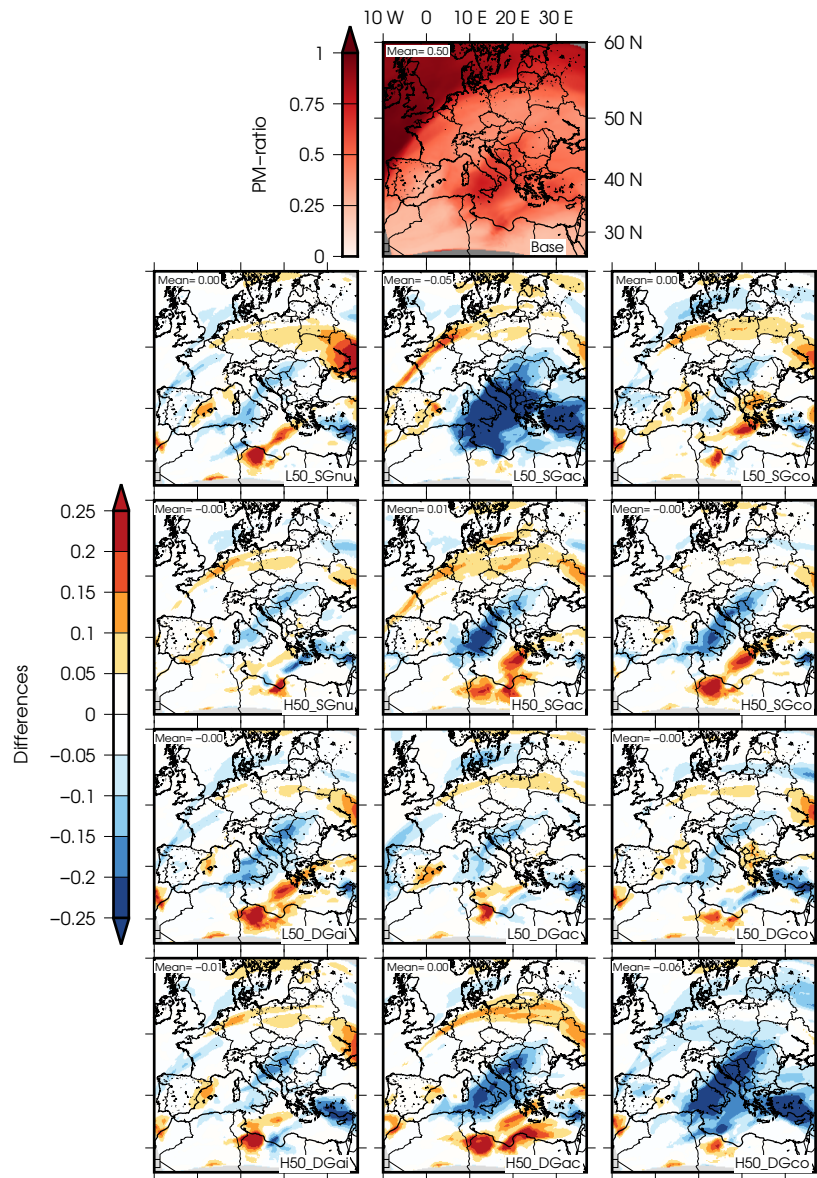


Figure 3. PM-ratio at 750 hPa for the base case and differences for sensitivity test simulations at 50%.

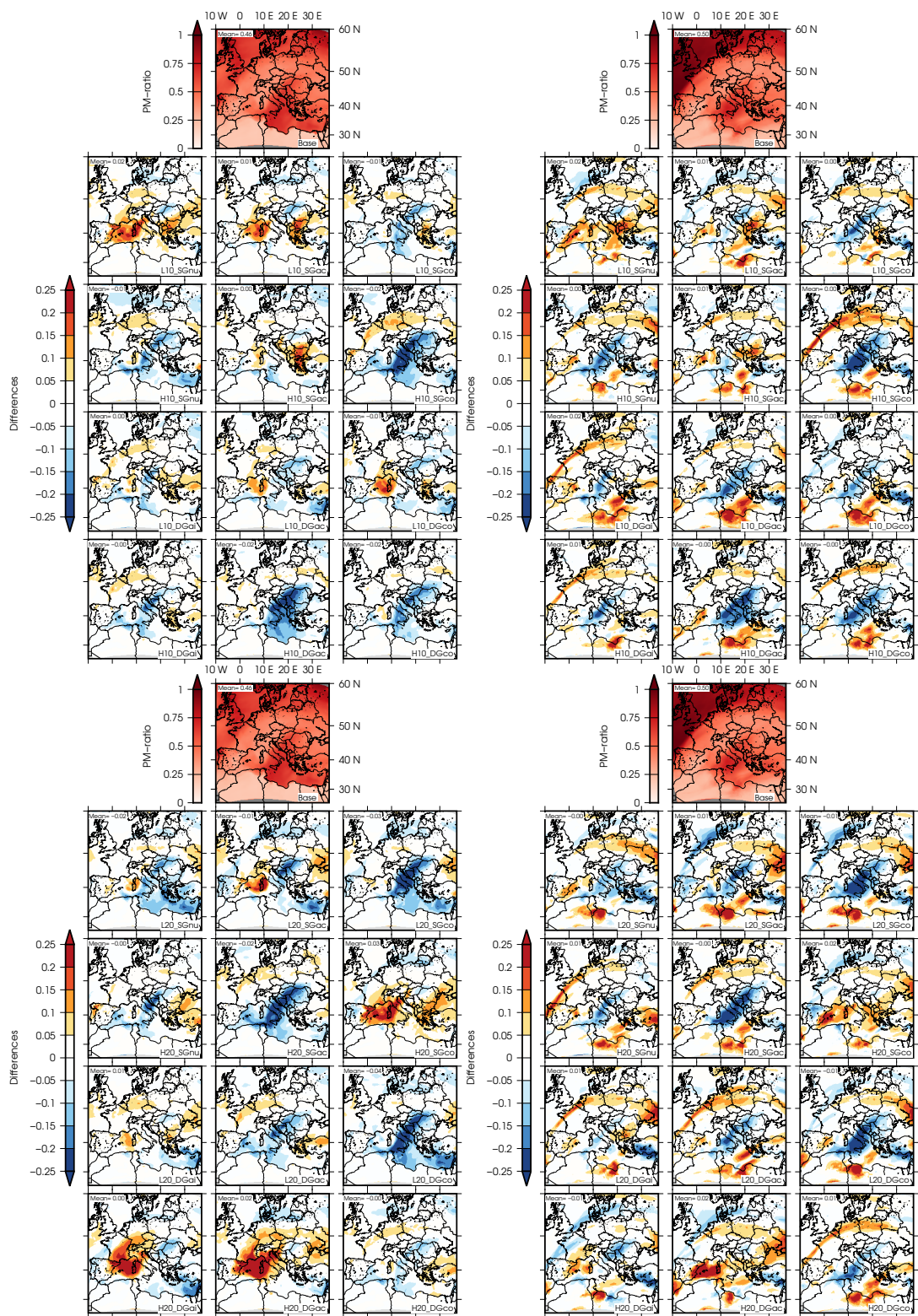


Figure 4. PM-ratio for sensitivity test at 10 (top) and 20 % (bottom). Left at 1000 and right at 750 hPa.

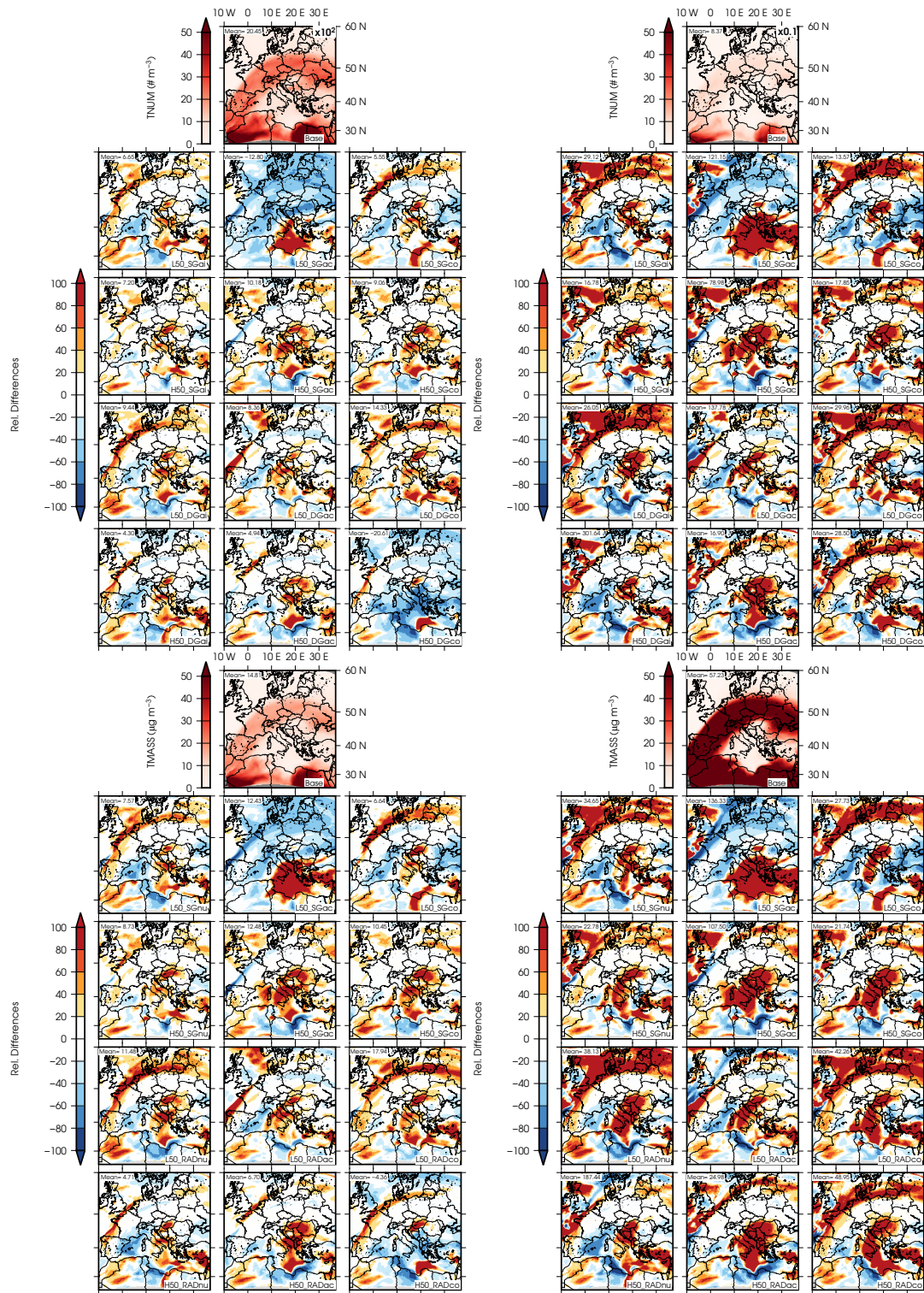


Figure 5. Total number concentration of particles (top) and total mass concentration (bottom) at 750 hPa in the Aitken and accumulation (left) and coarse (right) modes for the base case and relative differences for sensitivity test simulations at 50 %.

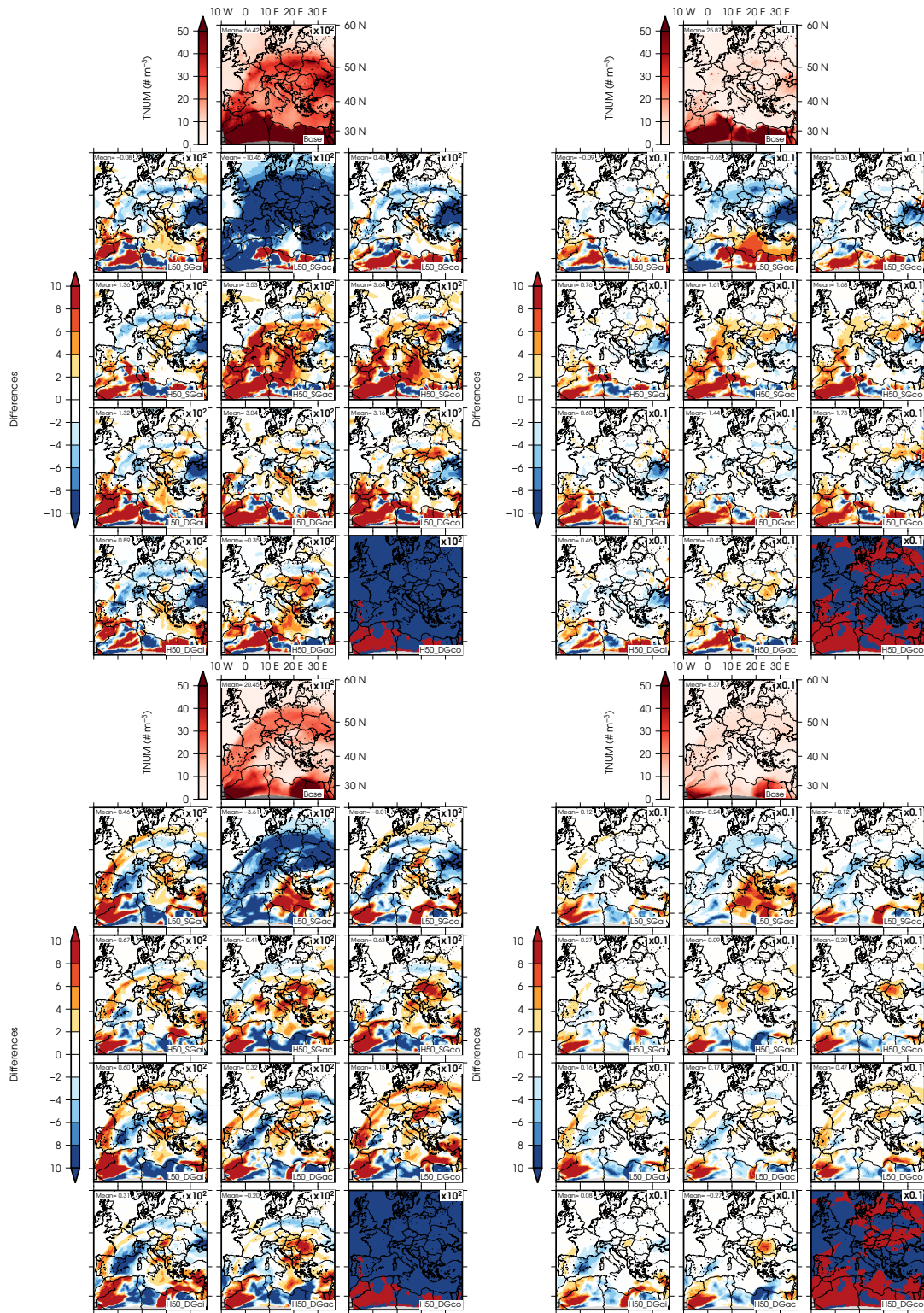


Figure 6. Total number concentration for Aitken and accumulation (right) and coarse (left) modes at 1000 (top) and 750 hPa (bottom) and non-relative differences for the sensitivity test at 50%.

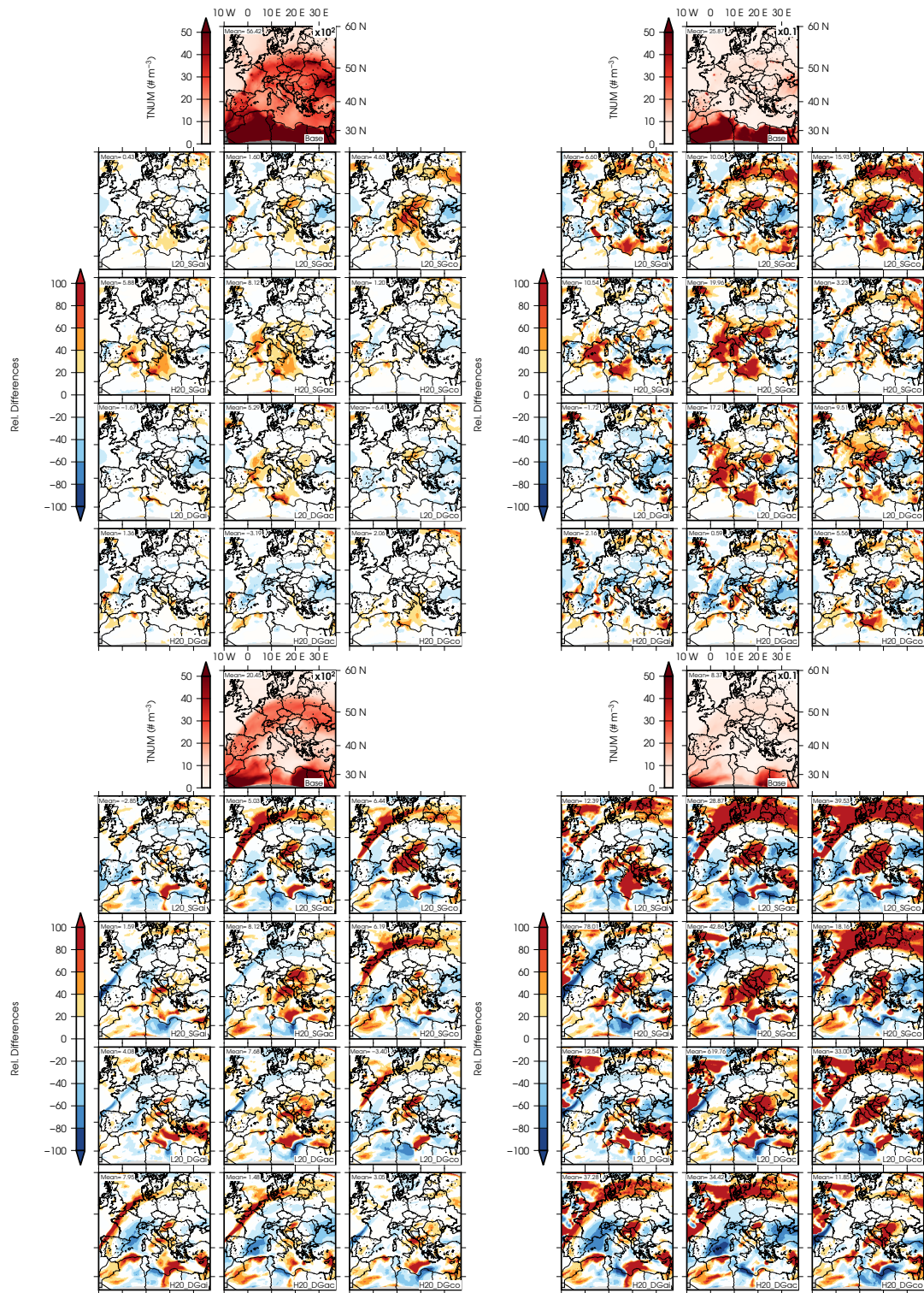


Figure 7. Total number concentration for Aitken and accumulation (right) and coarse (left) modes at 1000 (top) and 750 hPa (bottom) and relative differences for the sensitivity test at 20%.

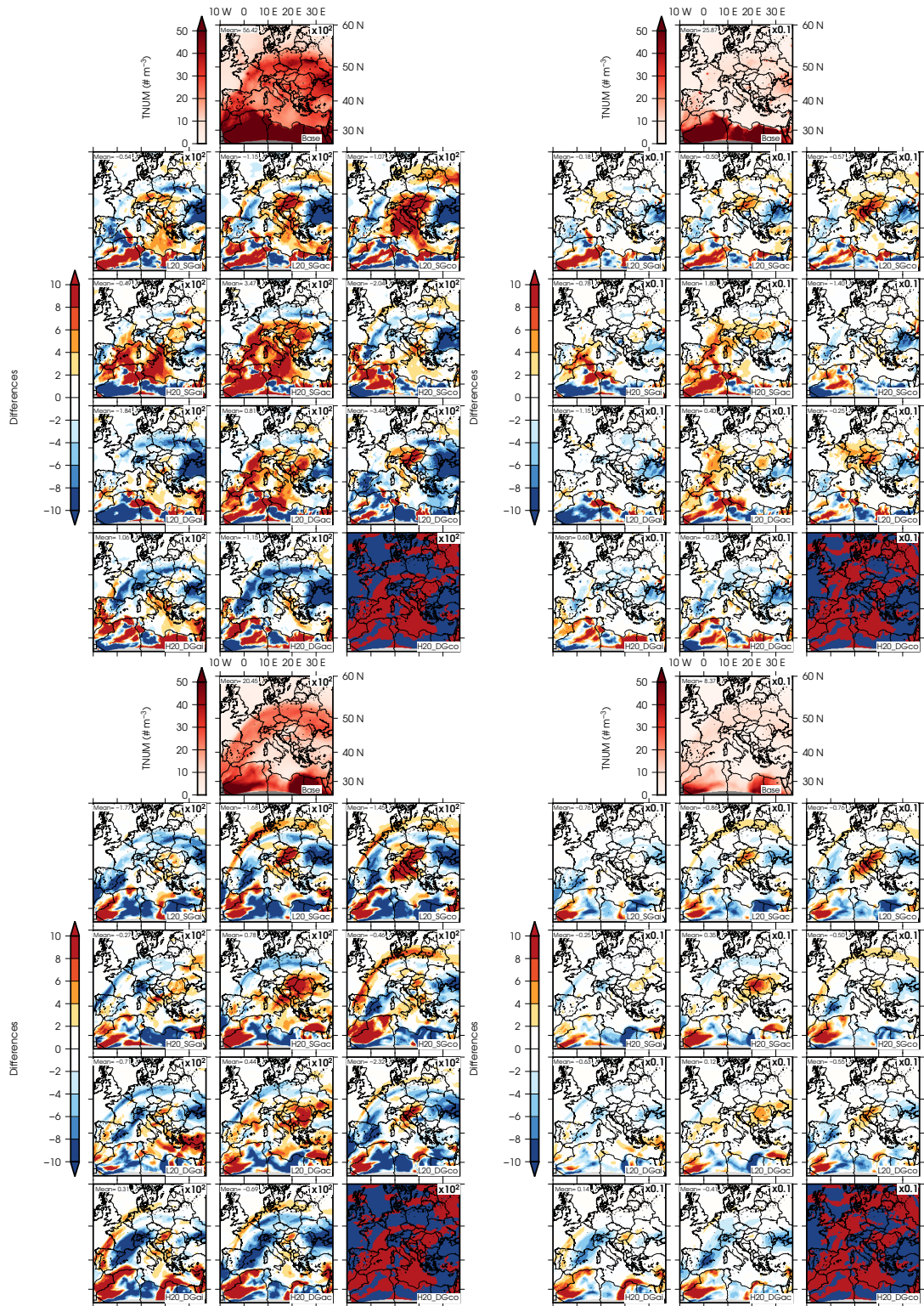


Figure 8. Id. Figure 6 but for sensitivity test at 20%.

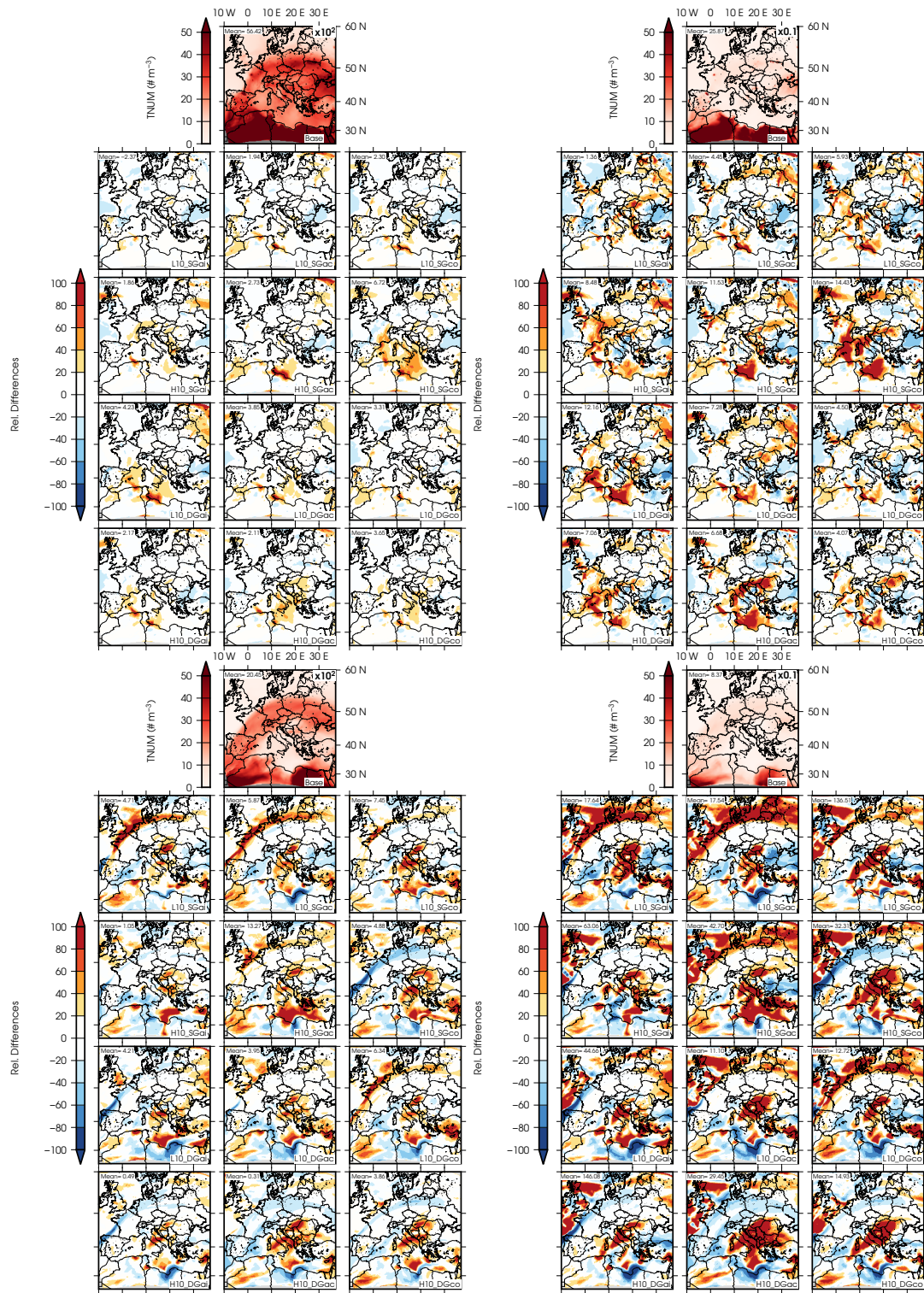


Figure 9. Id. Figure 7 but for sensitivity test at 10%.

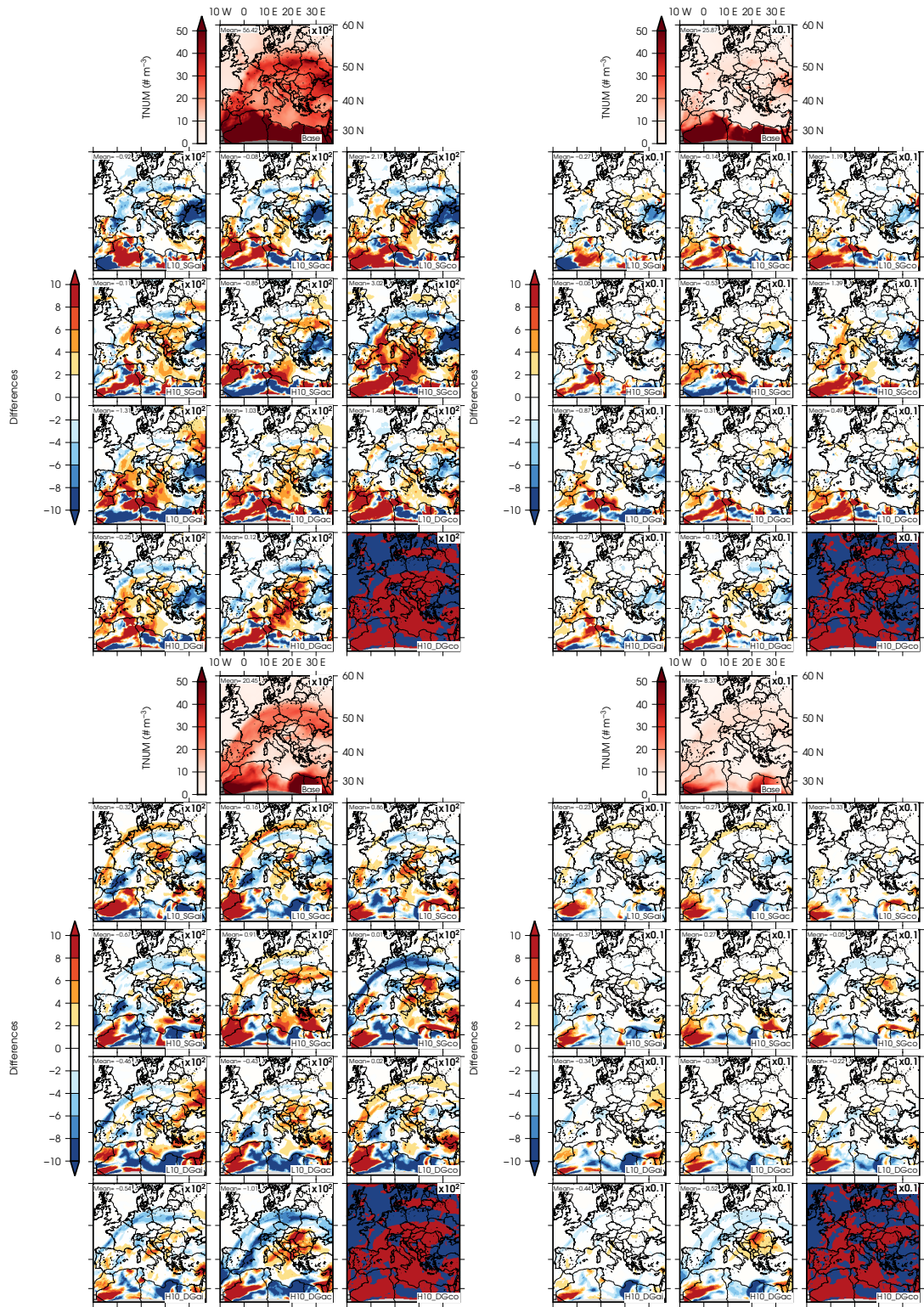


Figure 10. Id. Figure 6 but for sensitivity test at 10 %.

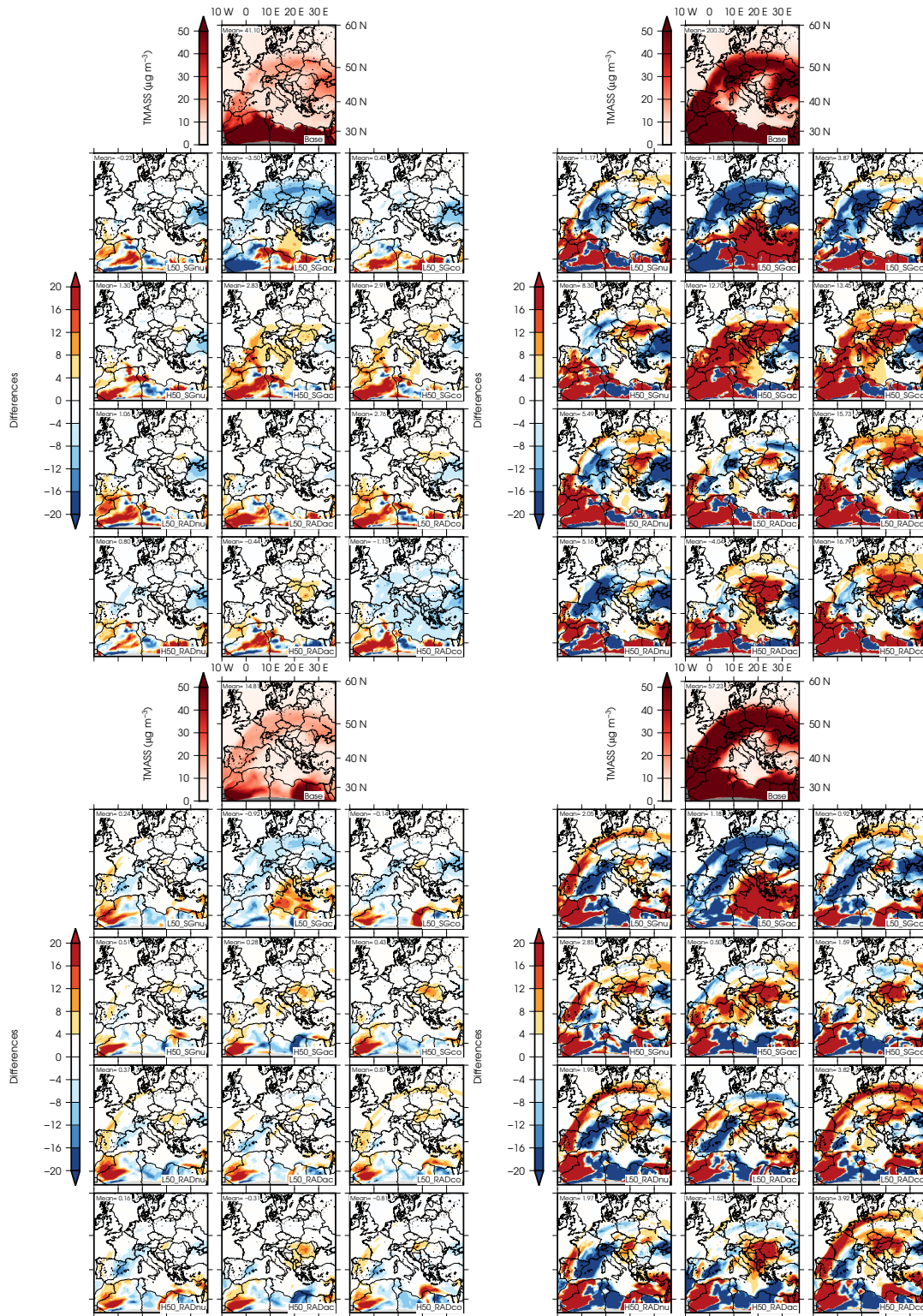


Figure 11. Total mass concentration for Aitken and accumulation (right) and coarse (left) modes at 1000 (top) and 750 hPa (bottom) and non-relative differences for the sensitivity test at 50 %.

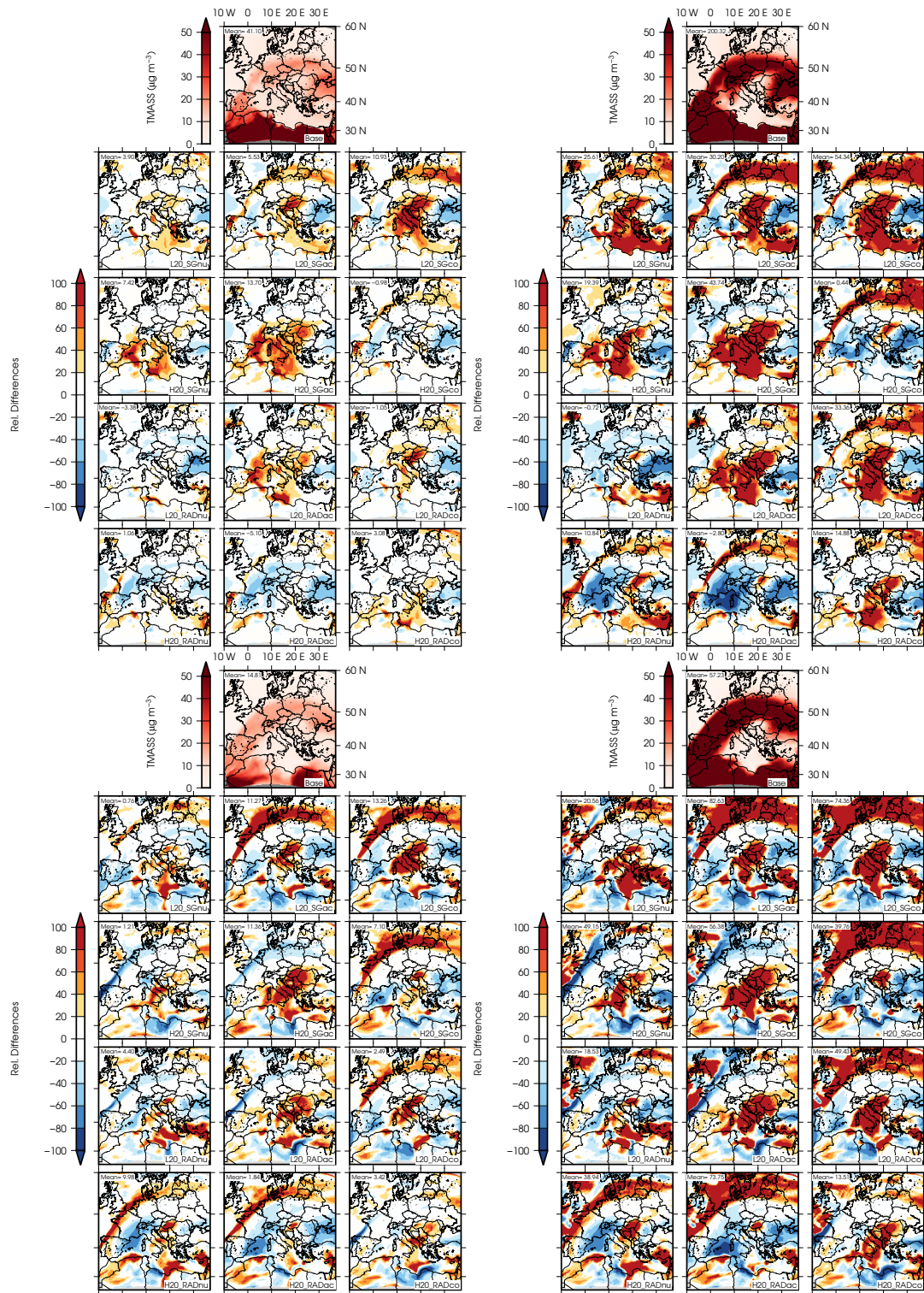


Figure 12. Total mass concentration for Aitken and accumulation (right) and coarse (left) modes at 1000 (top) and 750 hPa (bottom) and relative differences for the sensitivity test at 20 %.

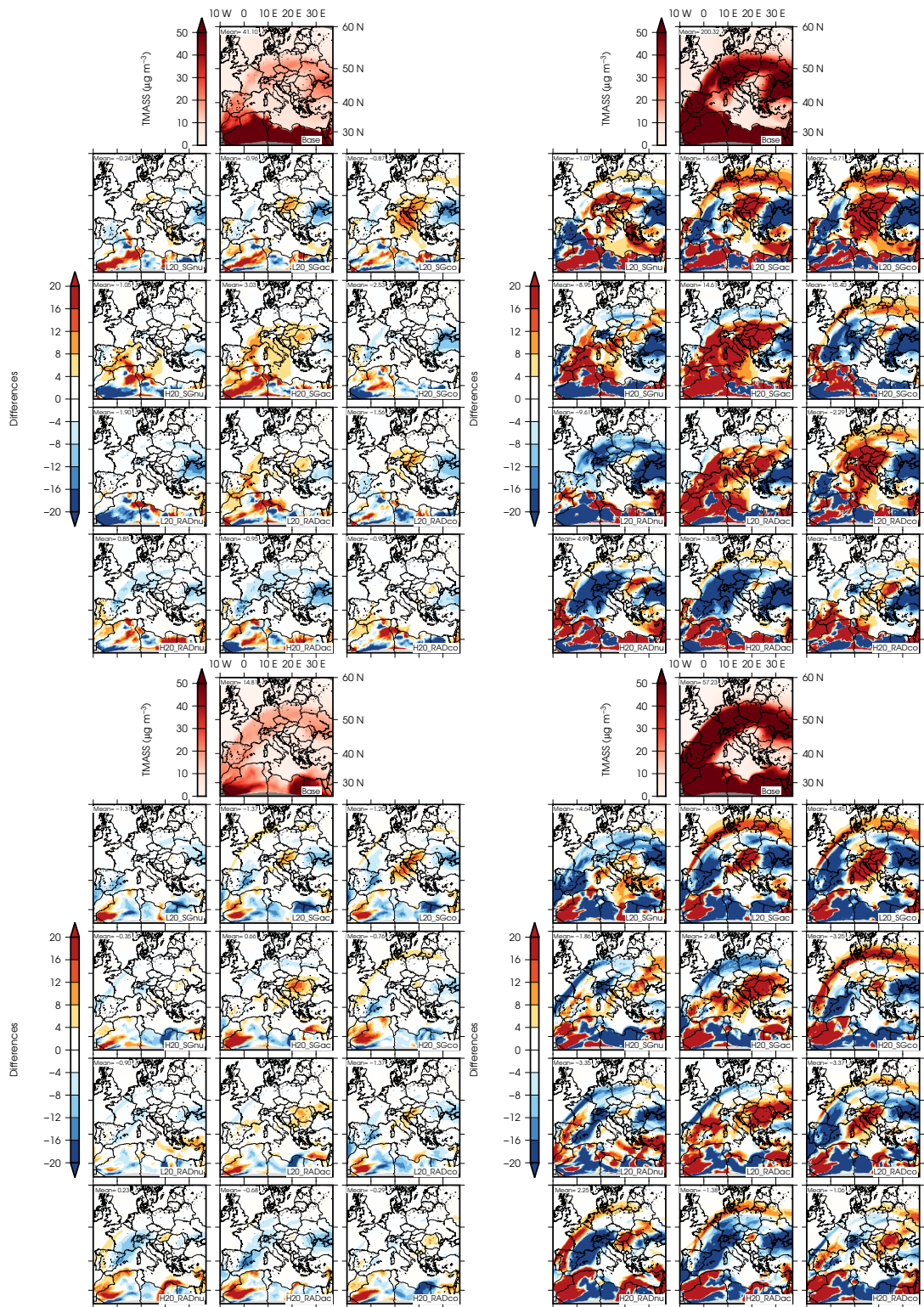


Figure 13. Id. Figure 11 but for sensitivity test at 20%.

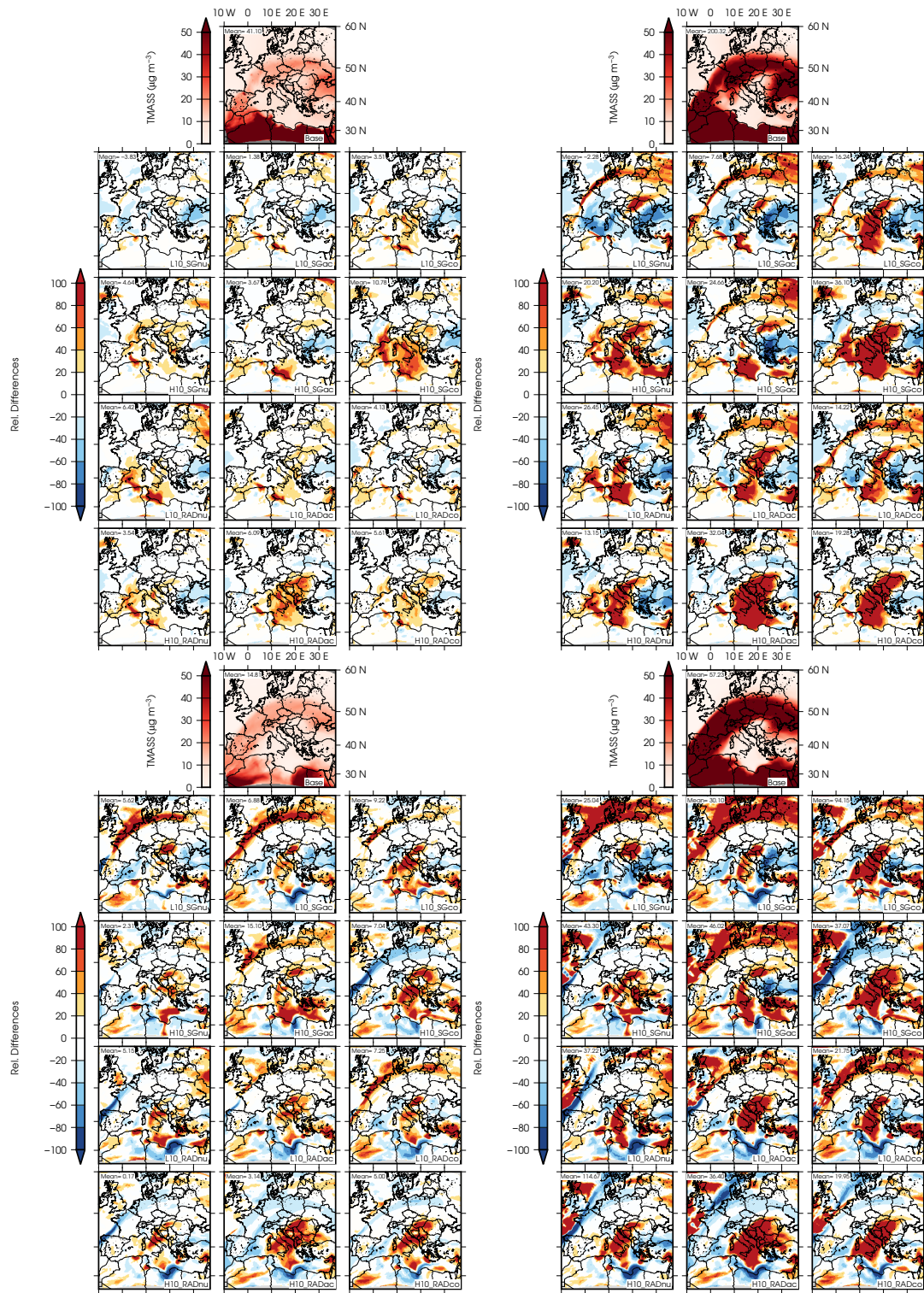


Figure 14. Id. Figure 12 but for sensitivity test at 10%.

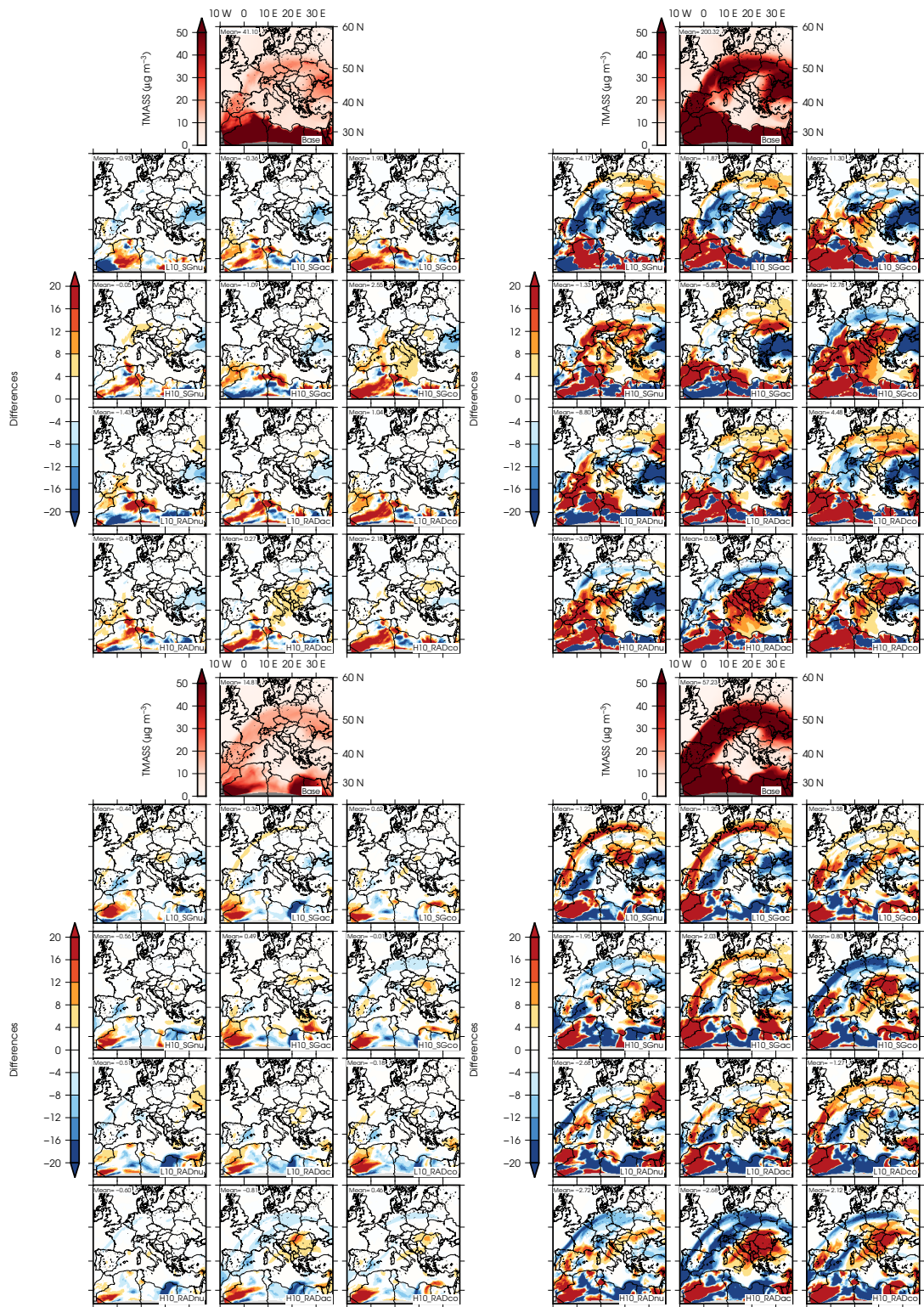


Figure 15. Id. Figure 11 but for sensitivity test at 10%.

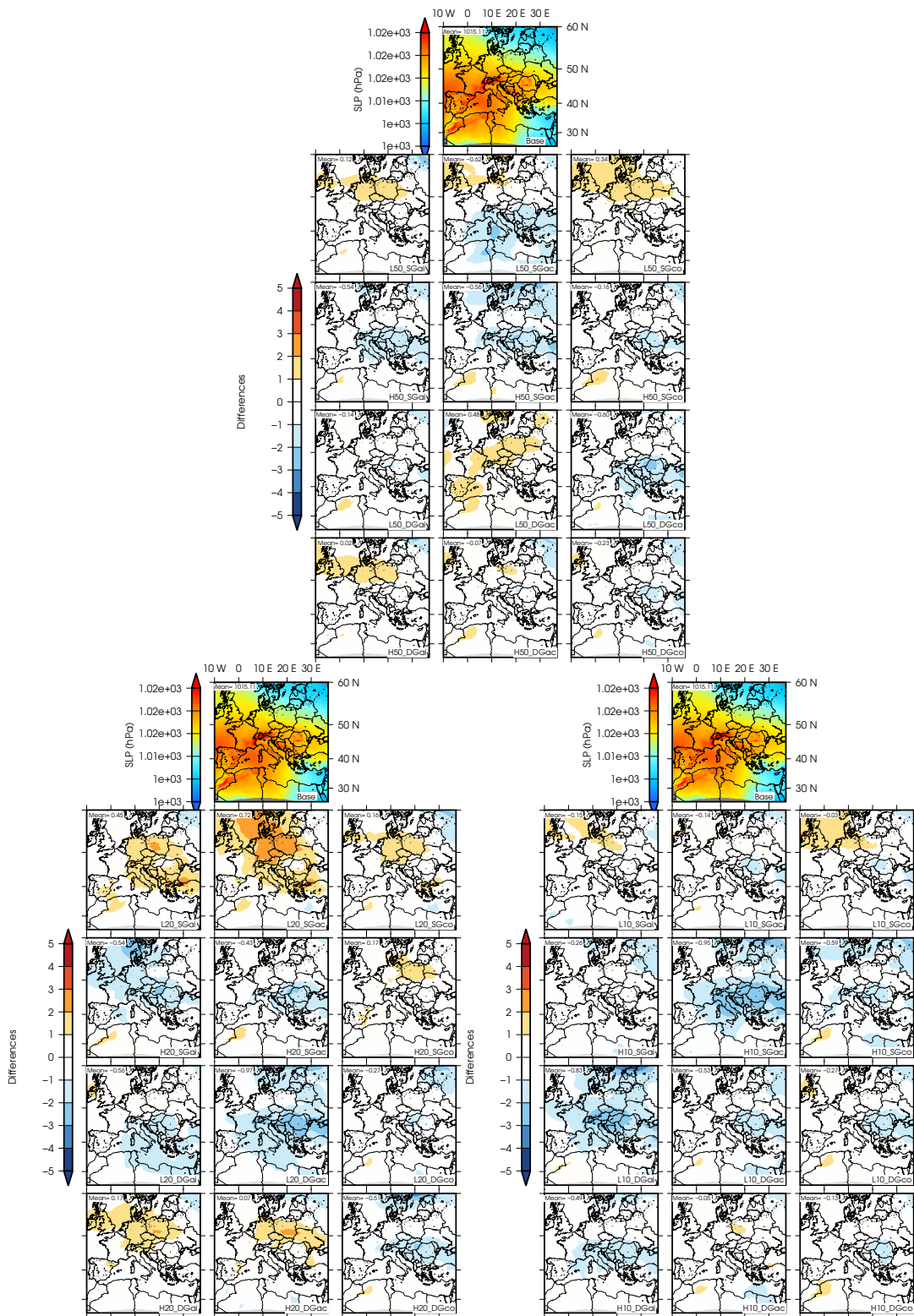


Figure 16. SLP for the base case and its variations for sensitivity test simulations at 50 (top), 20 (bottom-left) and 10% (bottom-right).