

SUPPLEMENTARY MATERIAL

In this section are shown the figures which represent the number of trajectories per day averaged in different seasons (JF, AMJ, JAS and OND) during 2006, 2007 and 2008 before arrival at 850 hPa, 700 hPa and 500 hPa over Banizoumbou, Cinzana and M'Bour stations. Areas where forest fires observed from AATSR occurs are also indicated.

The following **Figure S1**. Number of trajectories per day averaged in different seasons during 2006: January-February-March (JFM), April-May-June (AMJ), June-August-September (JAS), October-November-December (OND).

Trajectories are binned in a 2° lat-lon grid. Red contours represent the average position 4 to 6 days before arrival at 500 hPa, 700 hPa, 850 hPa over Banizoumbou. Blue contours indicates areas where forest fires observed from AATSR occurs. Fire-pixel are taken into account if their number is larger than 10 in the three-months period.

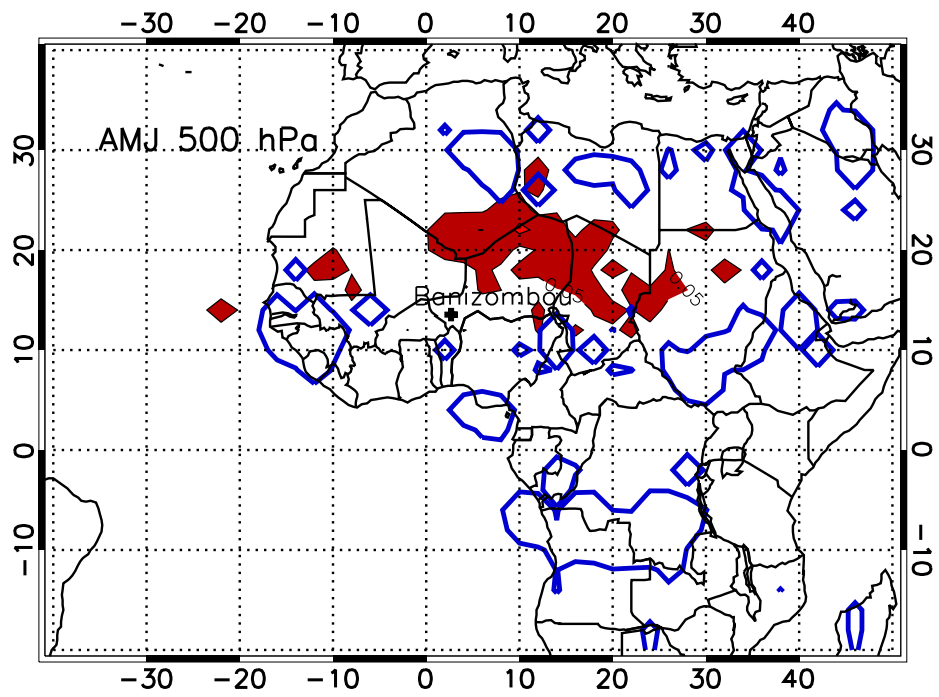
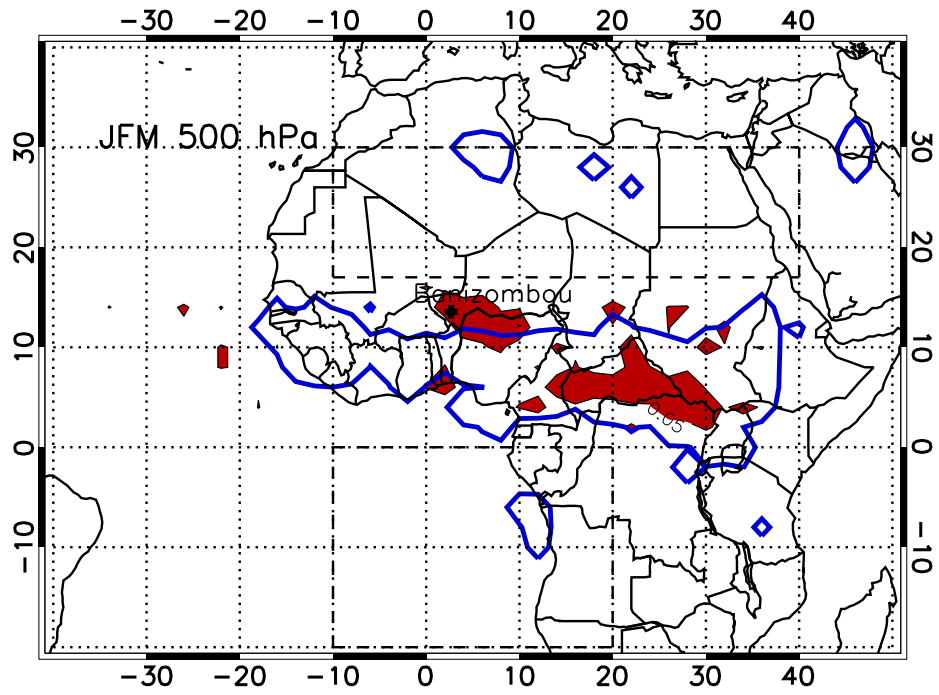


Figure S1

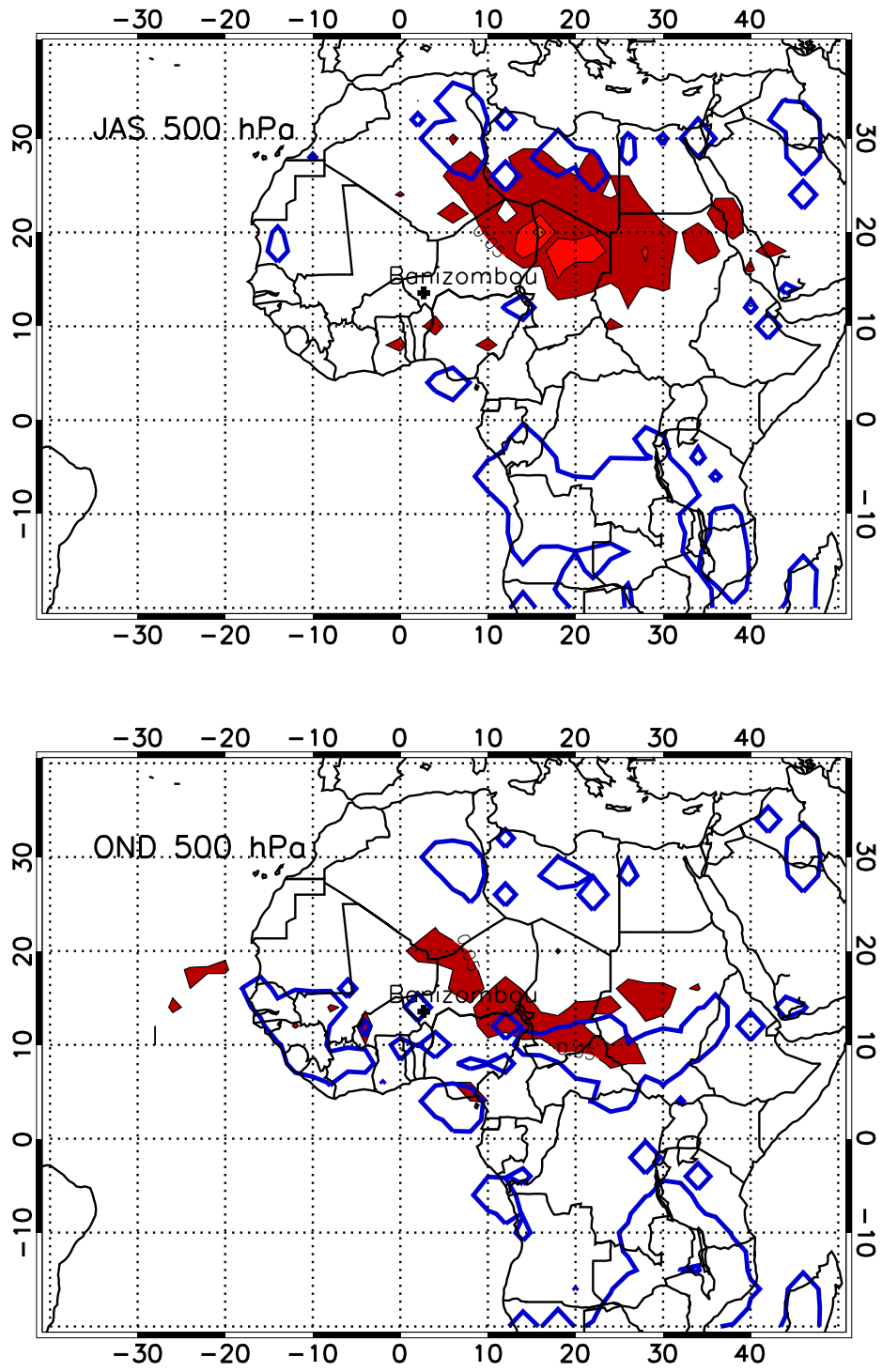


Figure S1

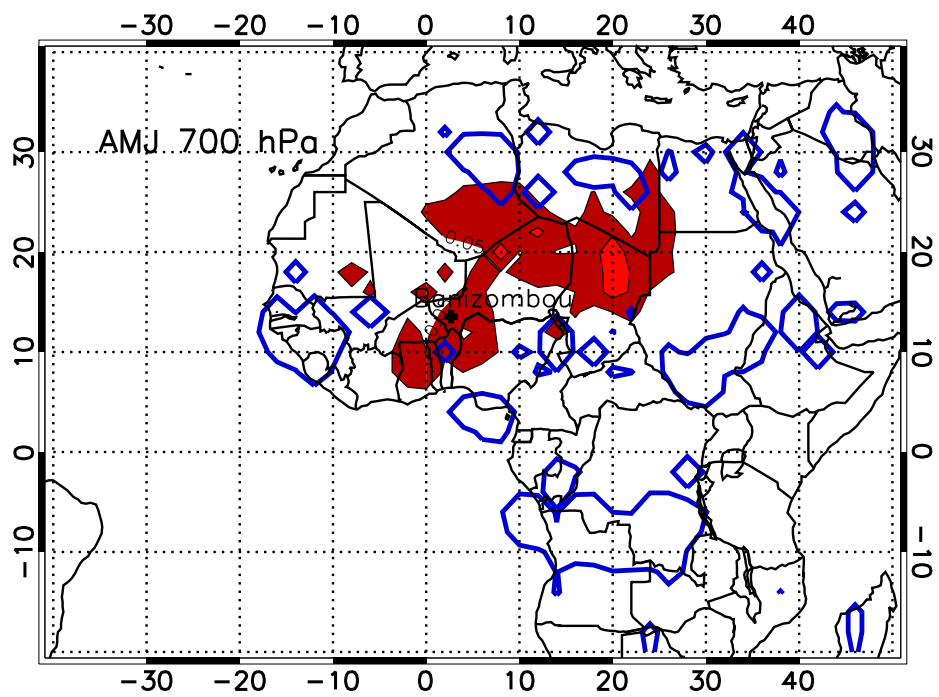
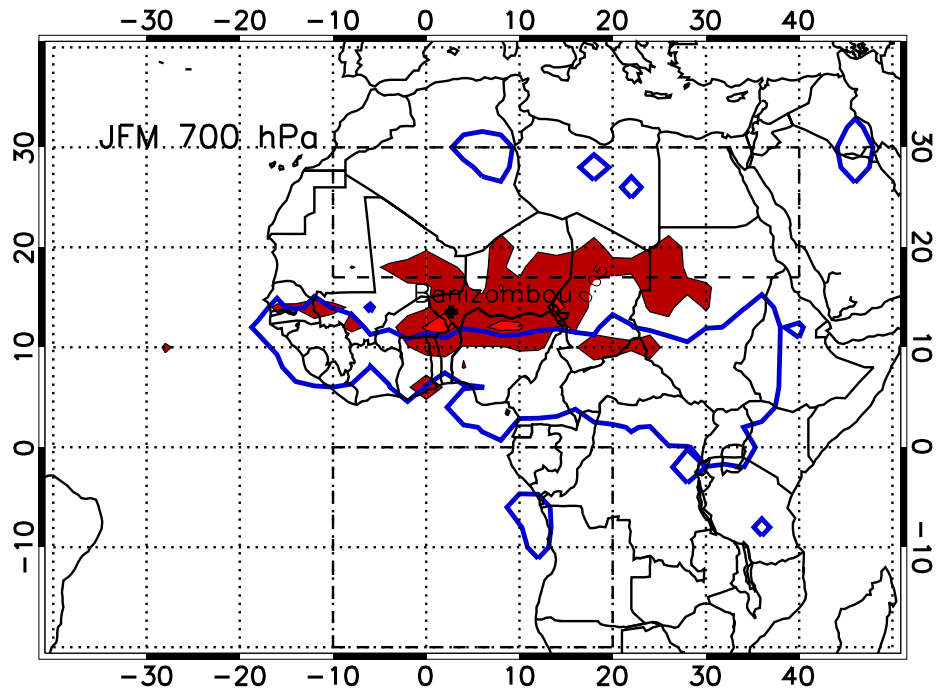
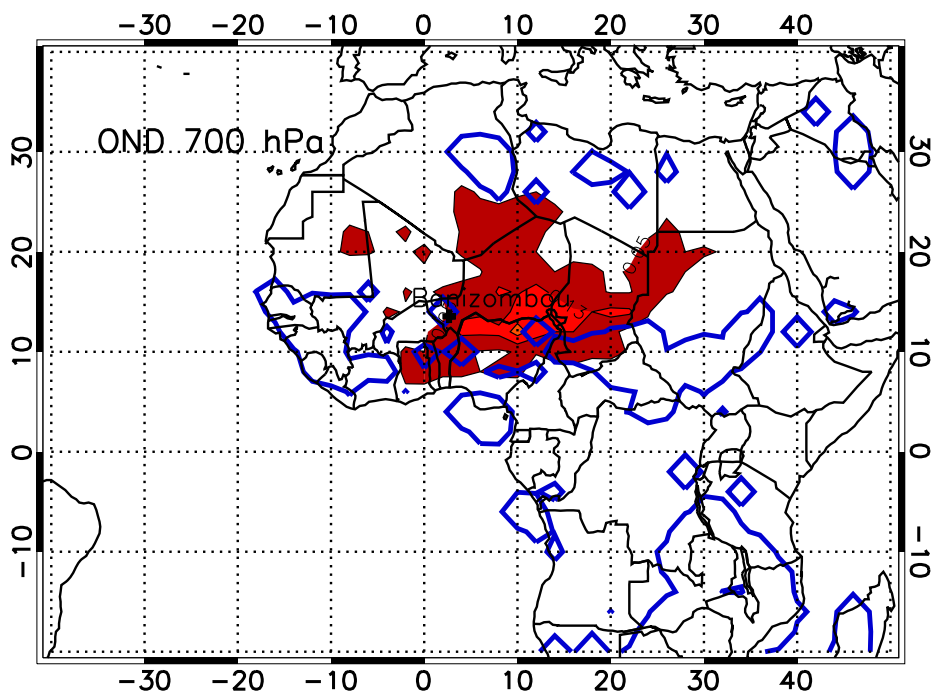
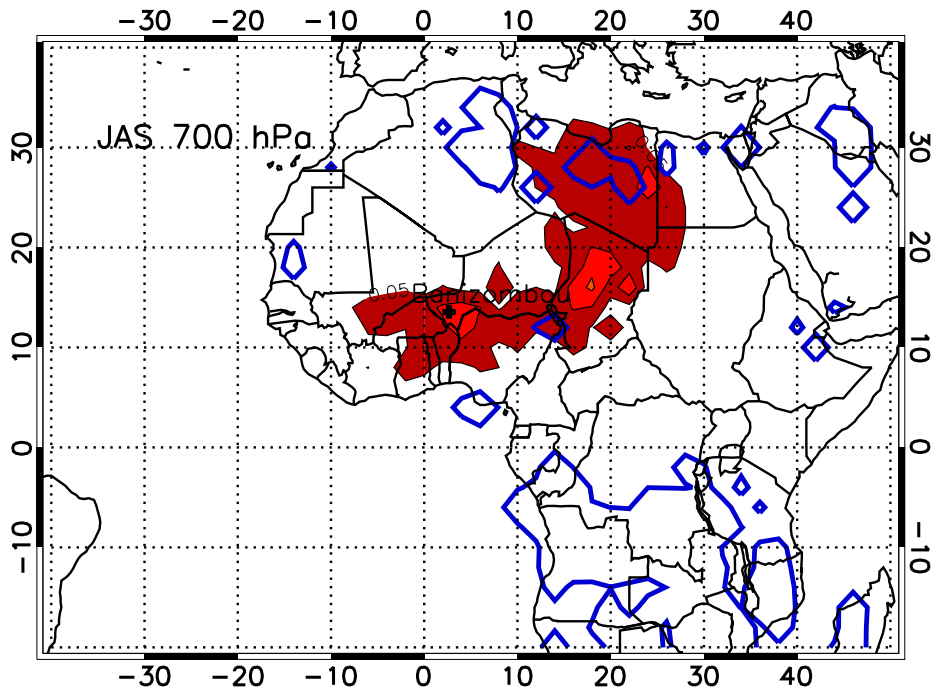


Figure S1



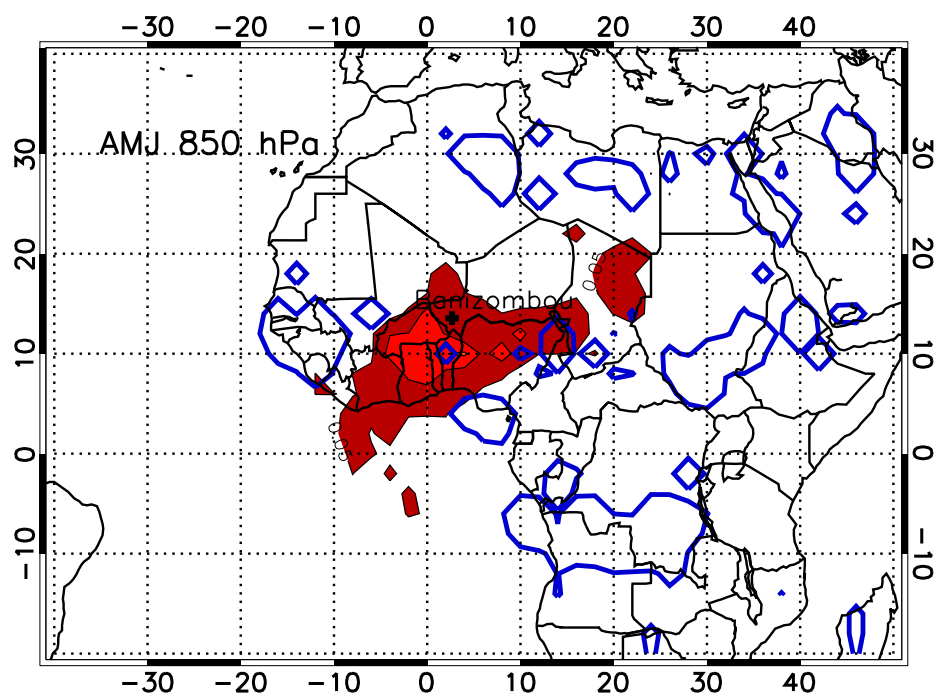
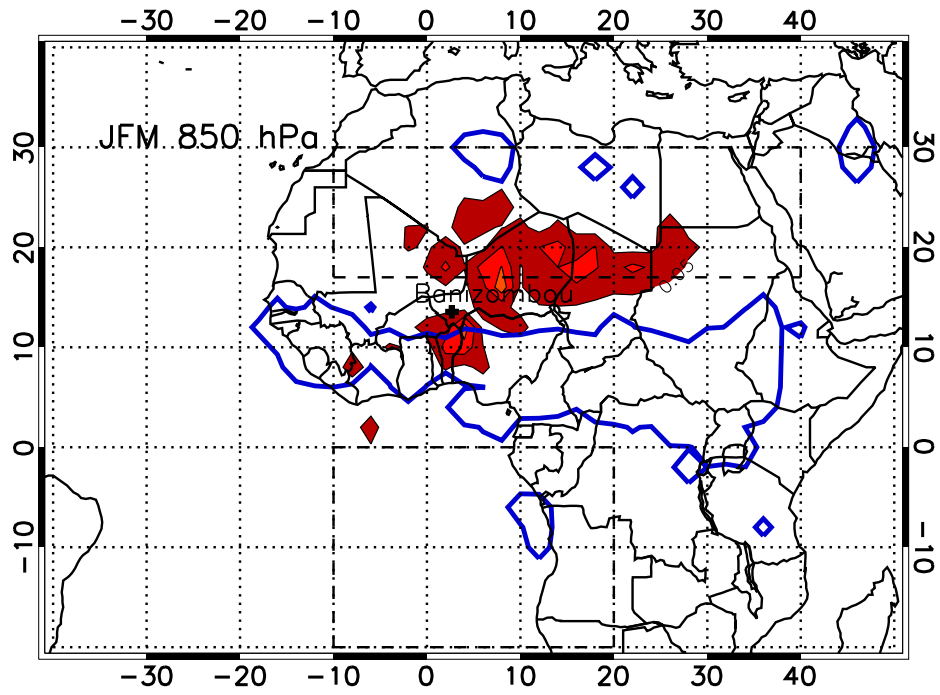


Figure S1

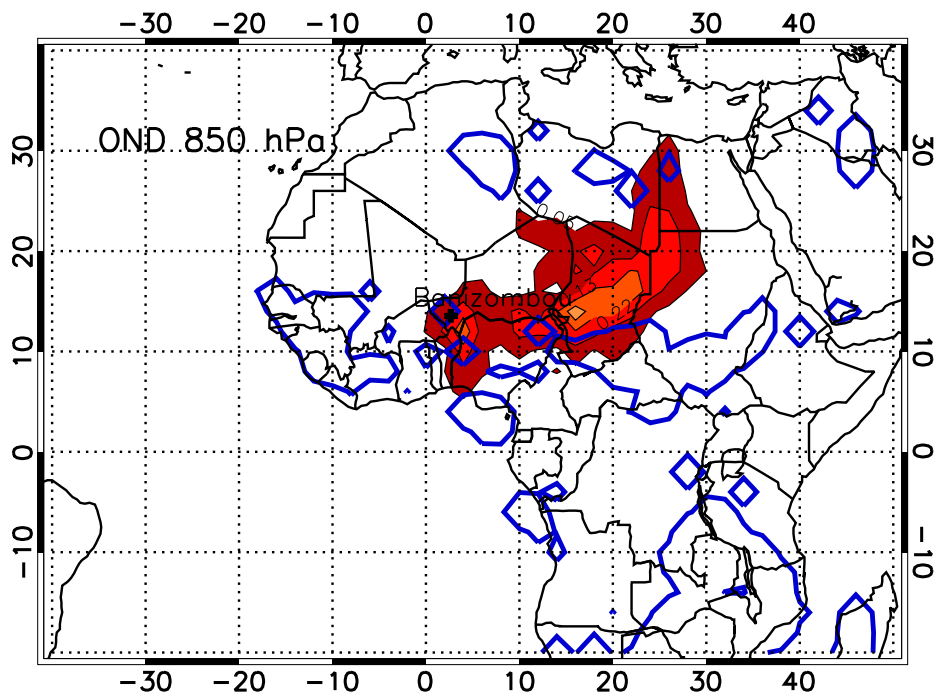
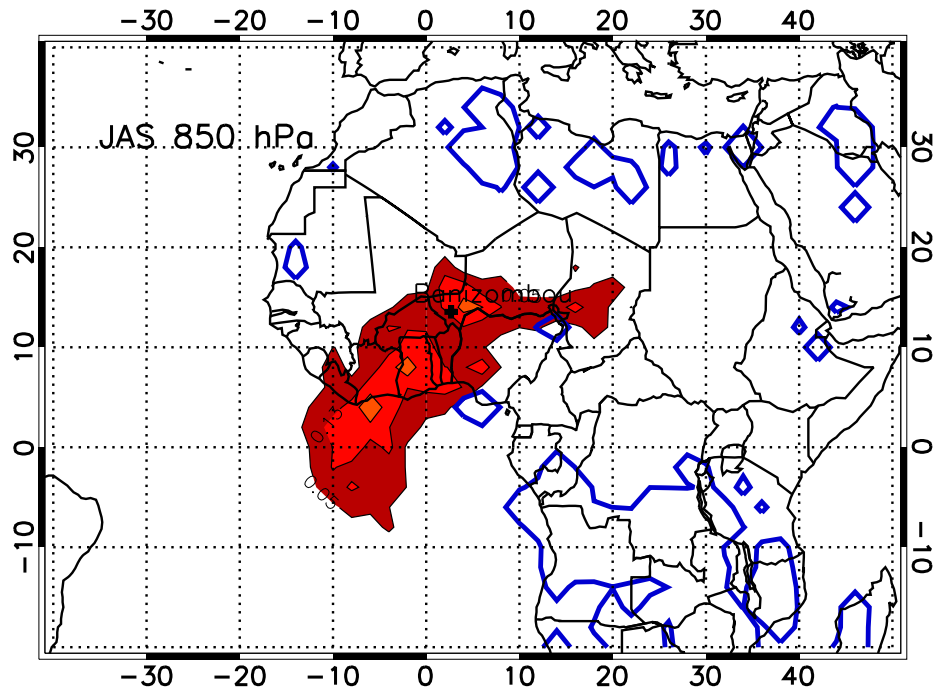


Figure S1

Following **Figure S2**. Number of trajectories per day averaged in different season during 2007: January-February-March (JFM), April-May-June (AMJ), June-August-September (JAS), October-November-December (OND).

Trajectories are binned in a 2° lat-lon grid. Red contours represent the average position 4 to 6 days before arrival at 500 hPa, 700 hPa, 850 hPa over Banizoumbou. Blue contours indicates areas where forest fires observed from AATSR occurs. Fire-pixel are taken into account if their number is larger than 10 in the three-months period.

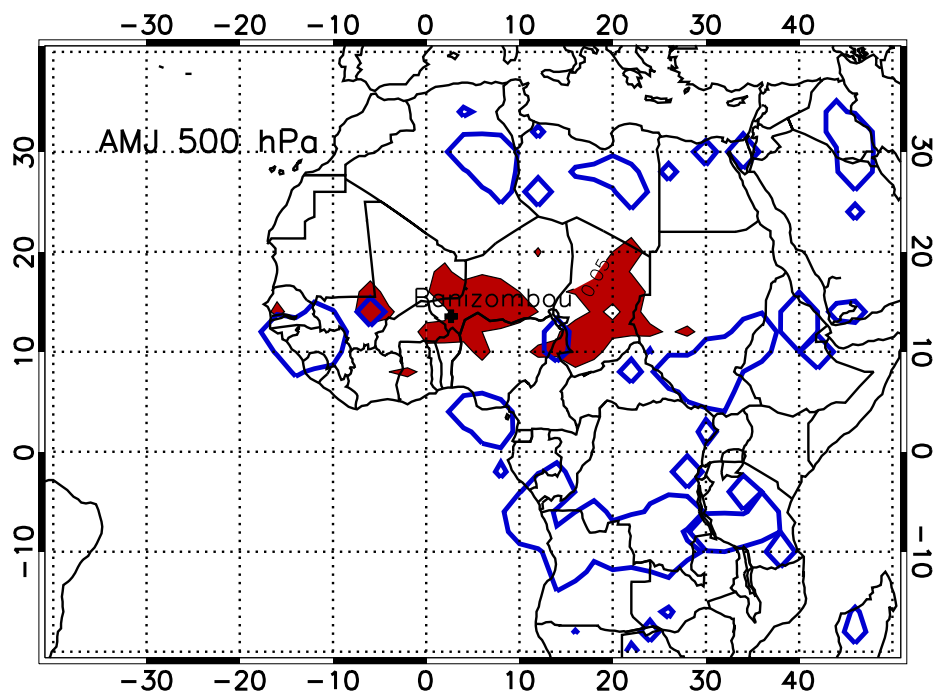
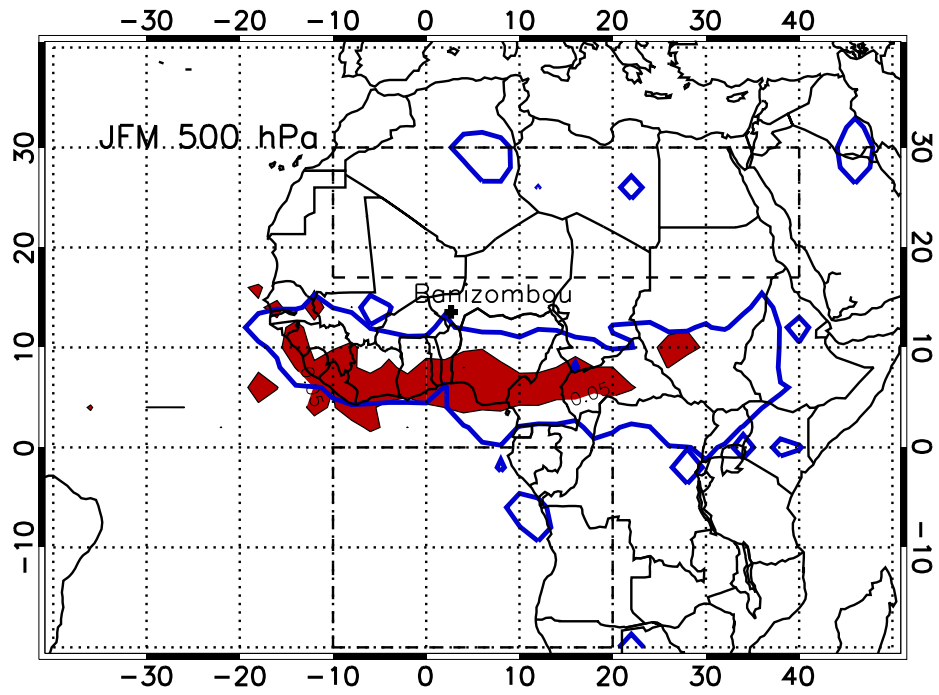


Figure S2

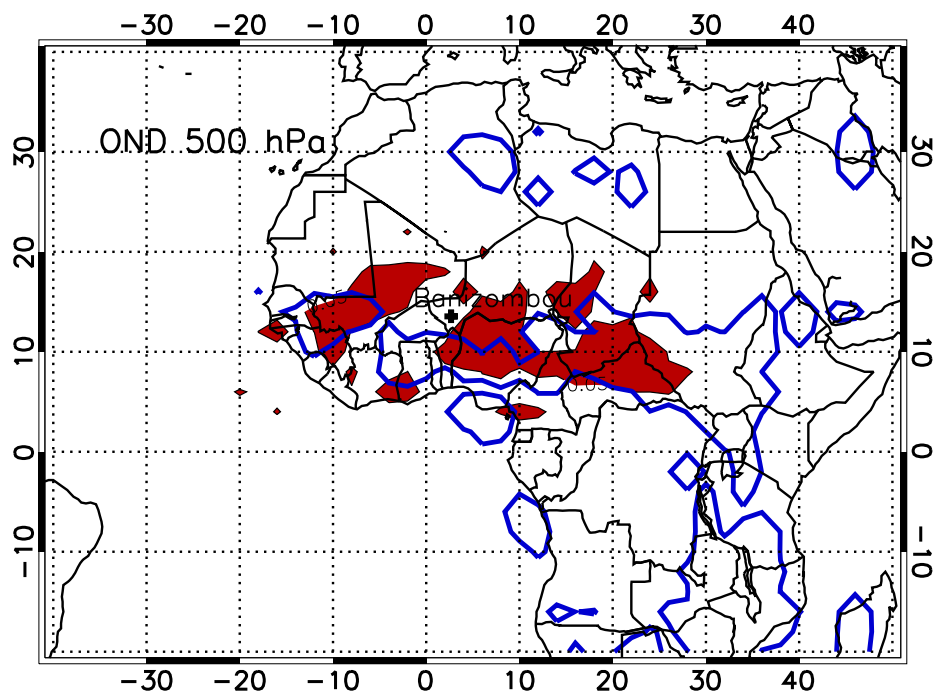
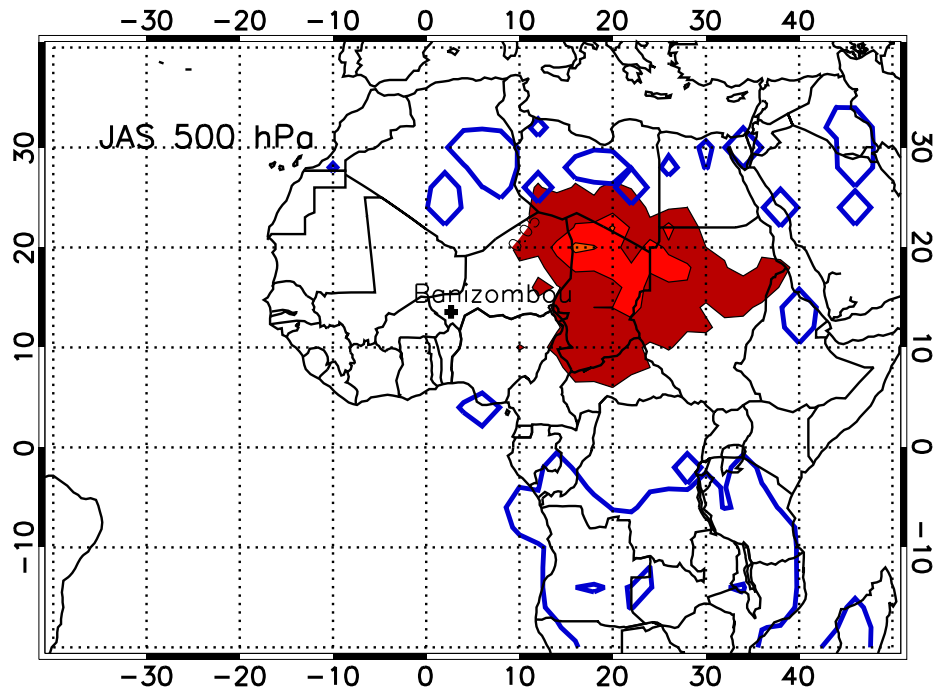


Figure S2

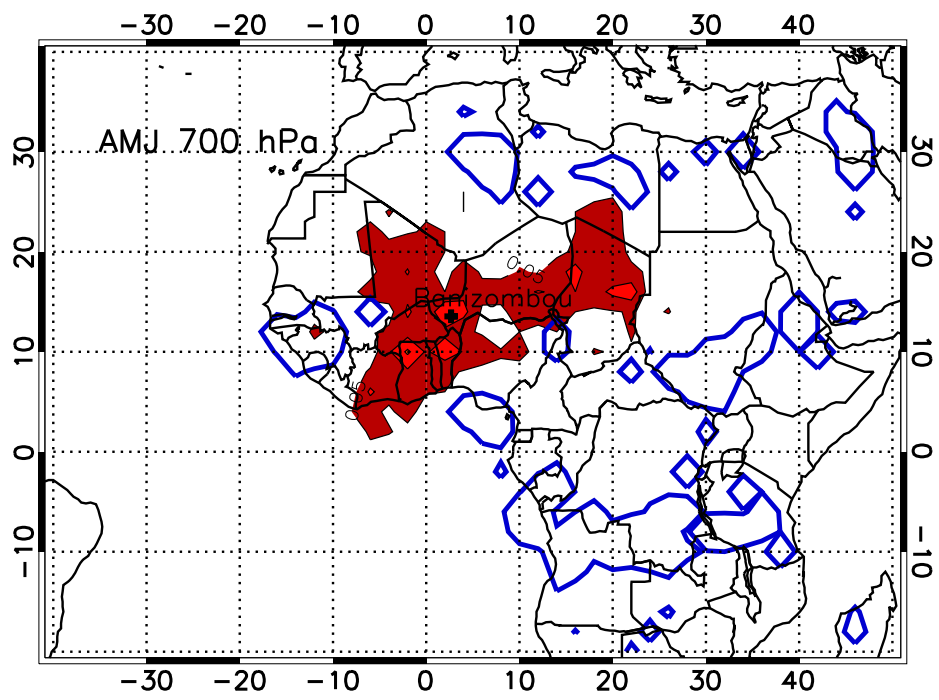
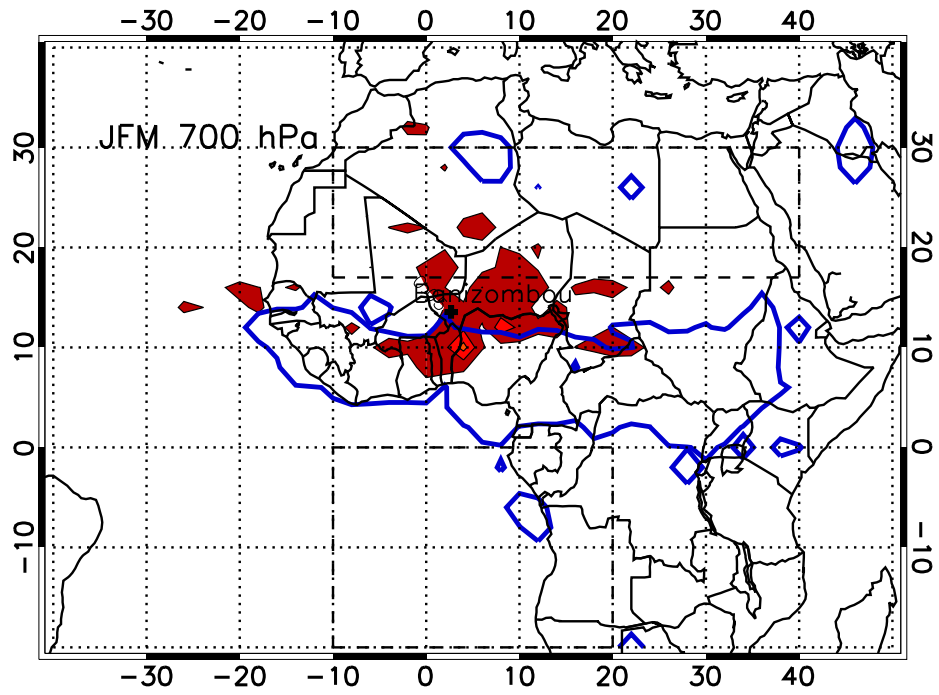


Figure S2

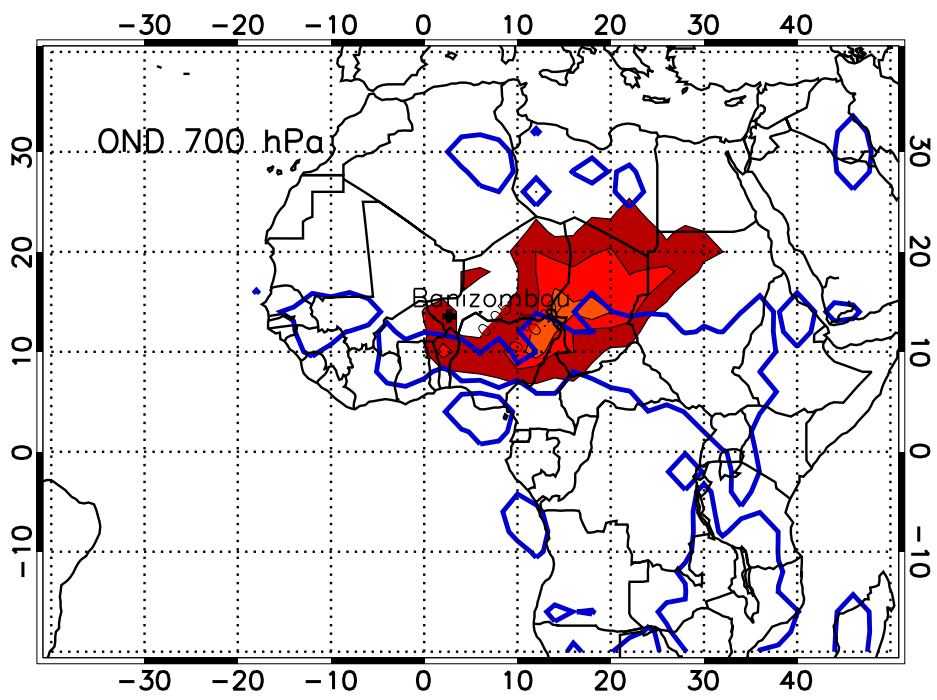
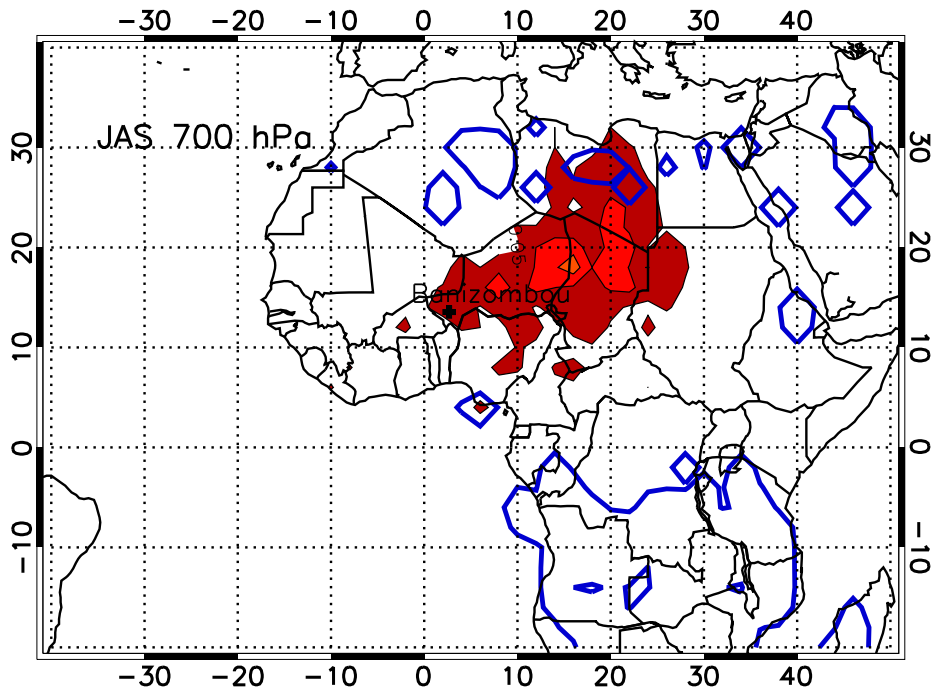


Figure S2

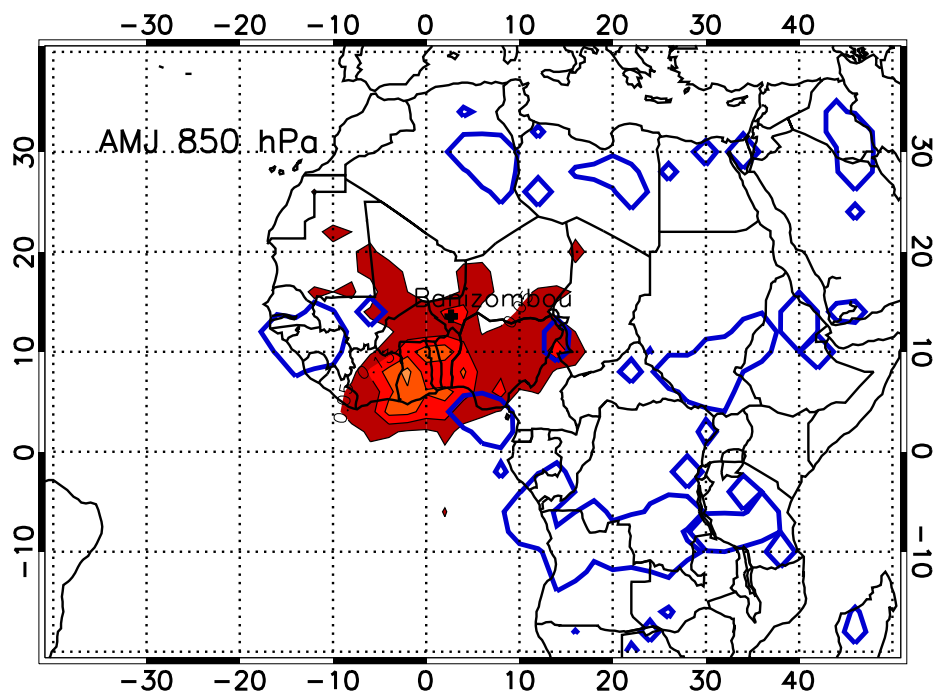
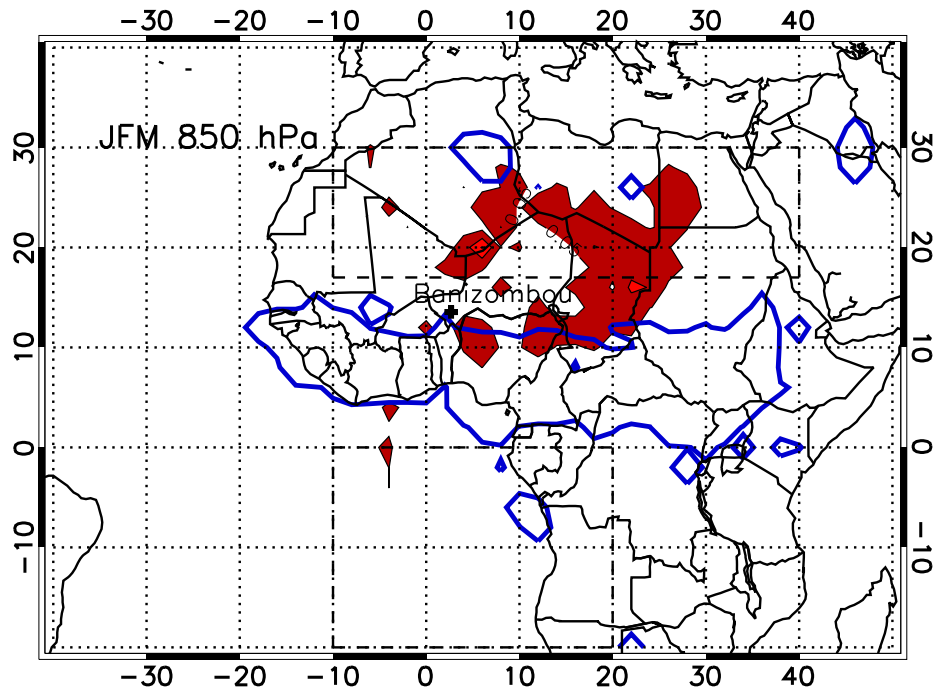


Figure S2

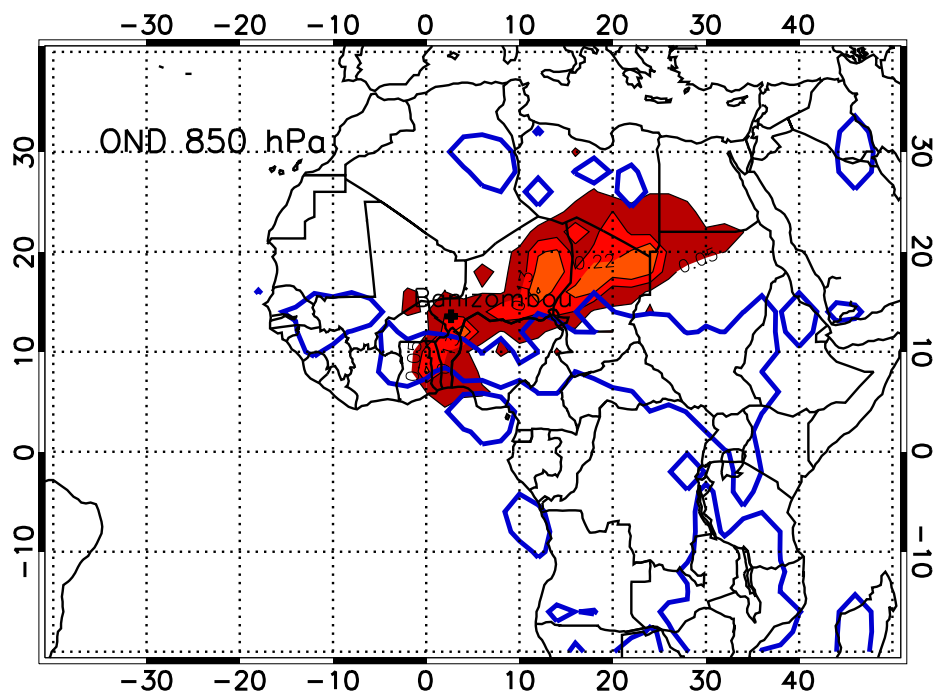
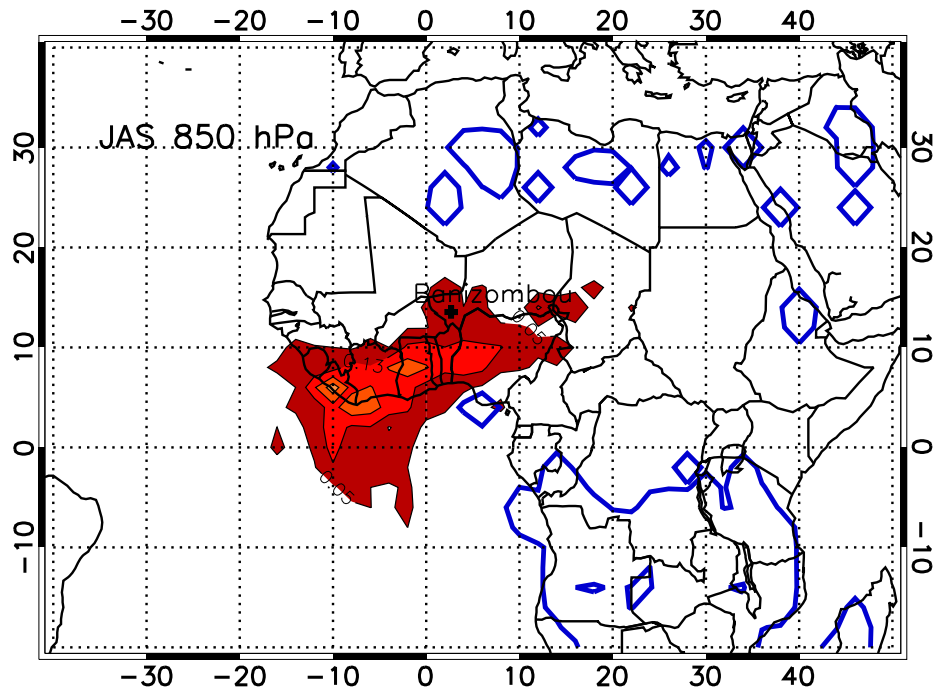


Figure S2

Following **Figure S3**. Number of trajectories per day averaged in different season during 2008: January-February-March (JFM), April-May-June (AMJ), June-August-September (JAS), October-November-December (OND).

Trajectories are binned in a 2° lat-lon grid. Red contours represent the average position 4 to 6 days before arrival at 500 hPa, 700 hPa, 850 hPa over Banizoumbou. Blue contours indicates areas where forest fires observed from AATSR occurs. Fire-pixel are taken into account if their number is larger than 10 in the three-months period.

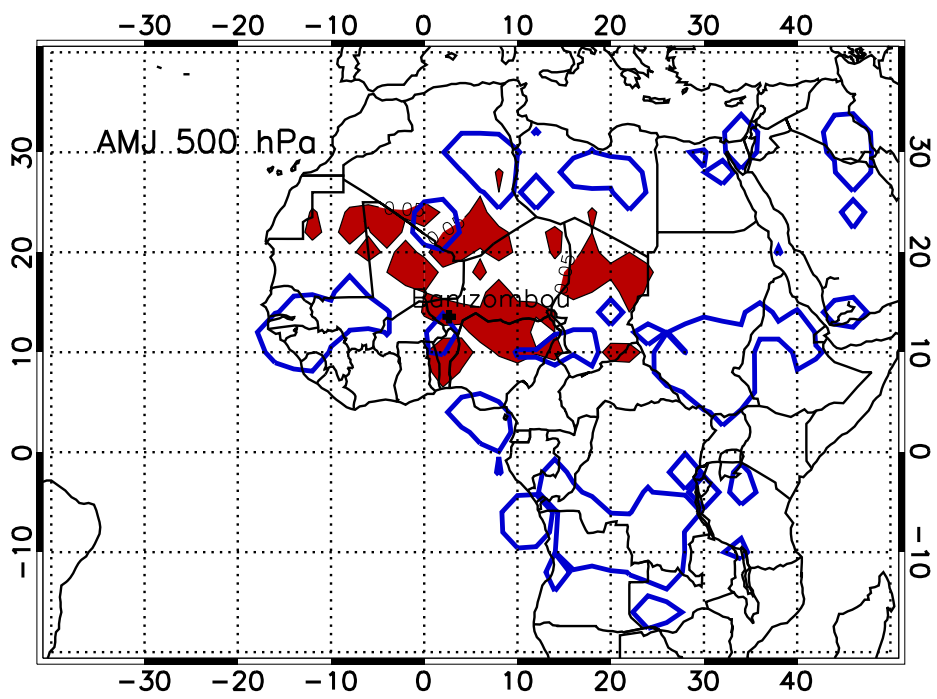
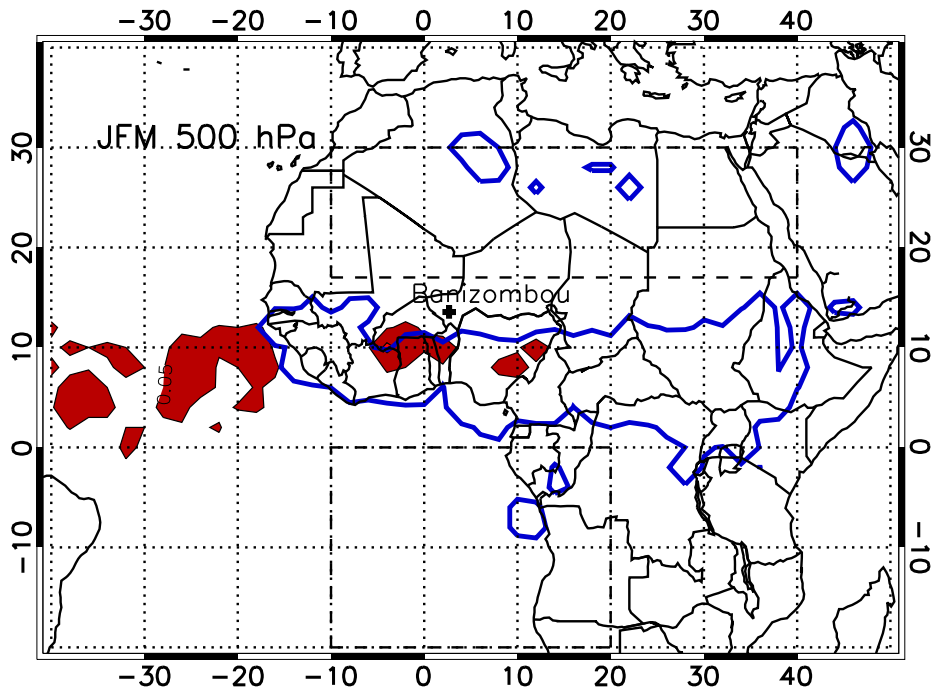


Figure S3

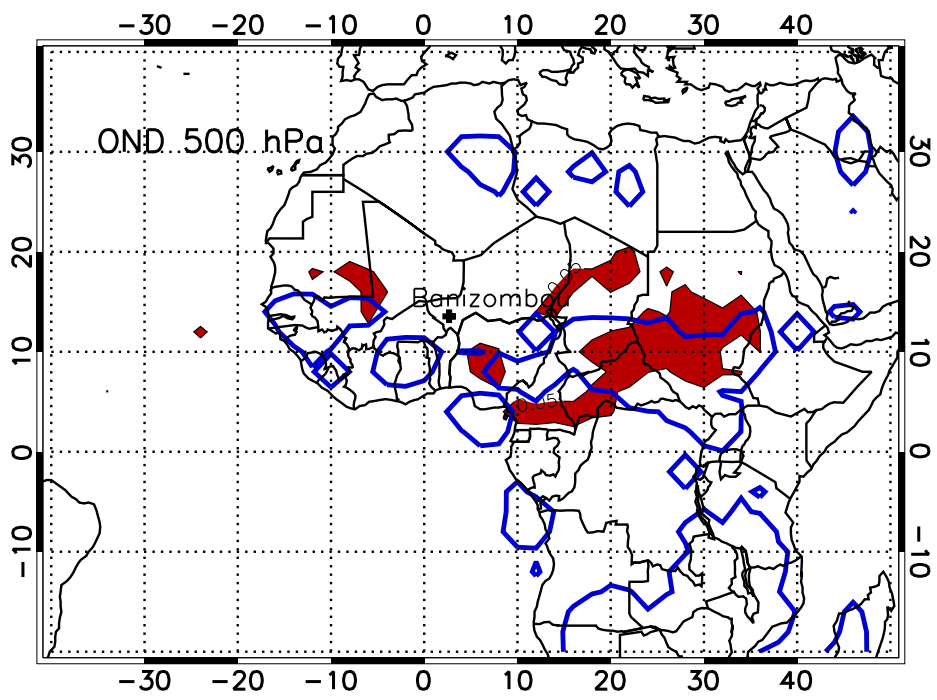
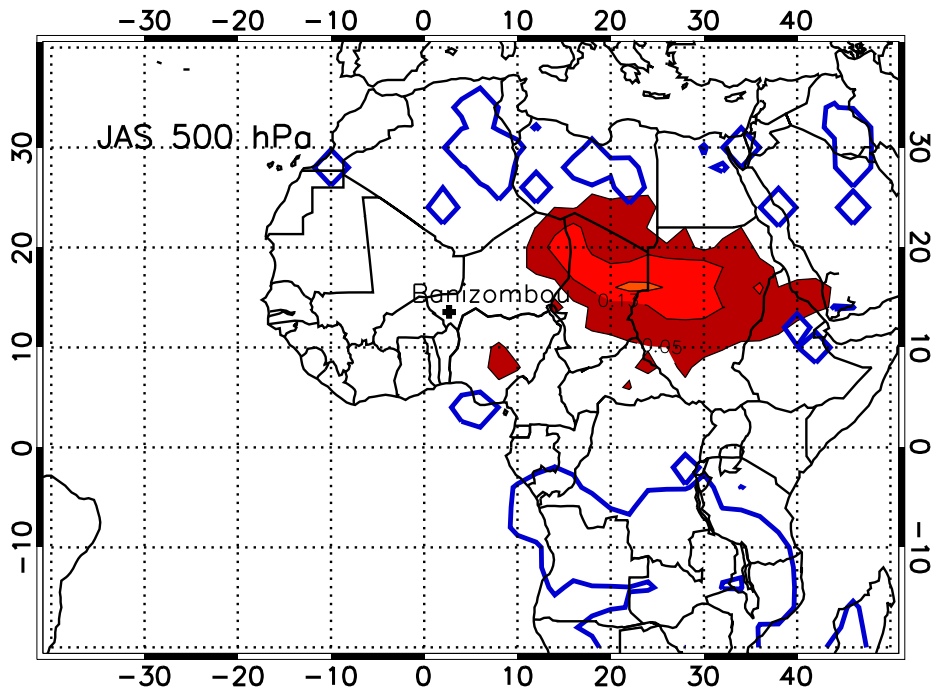


Figure S3

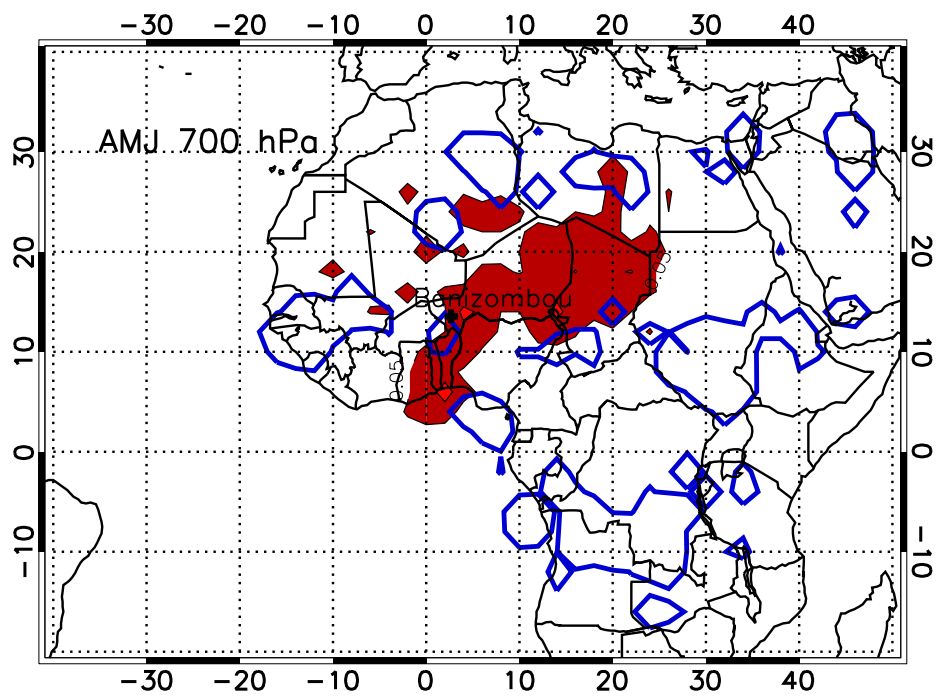
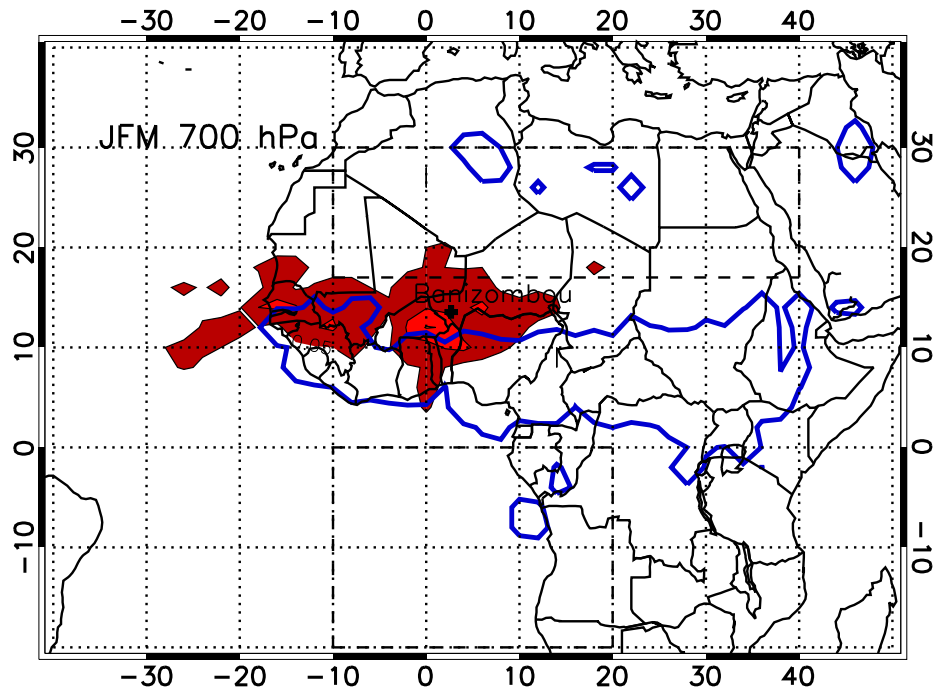


Figure S3

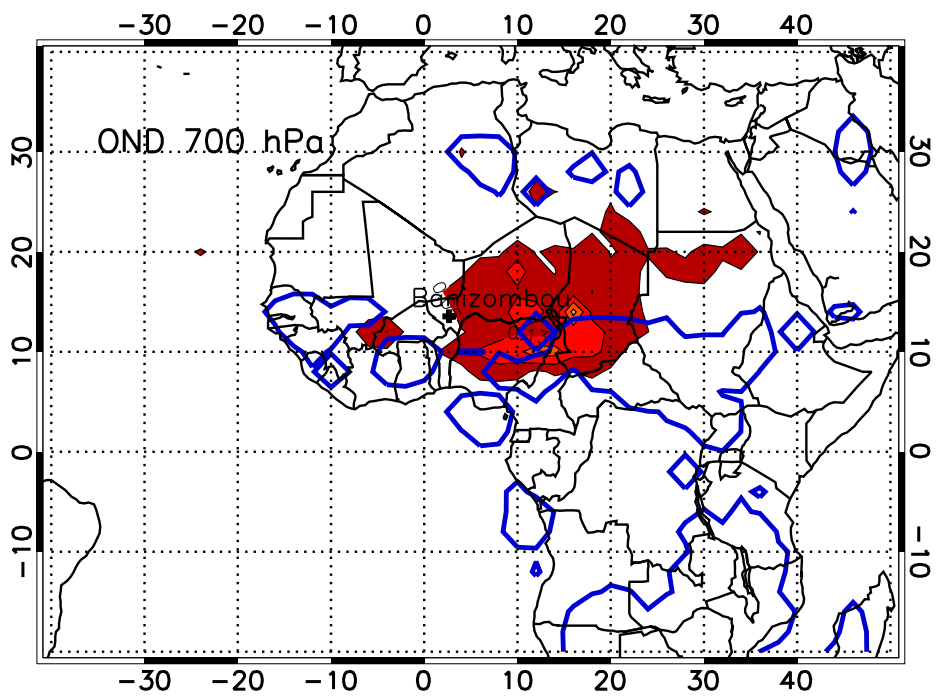
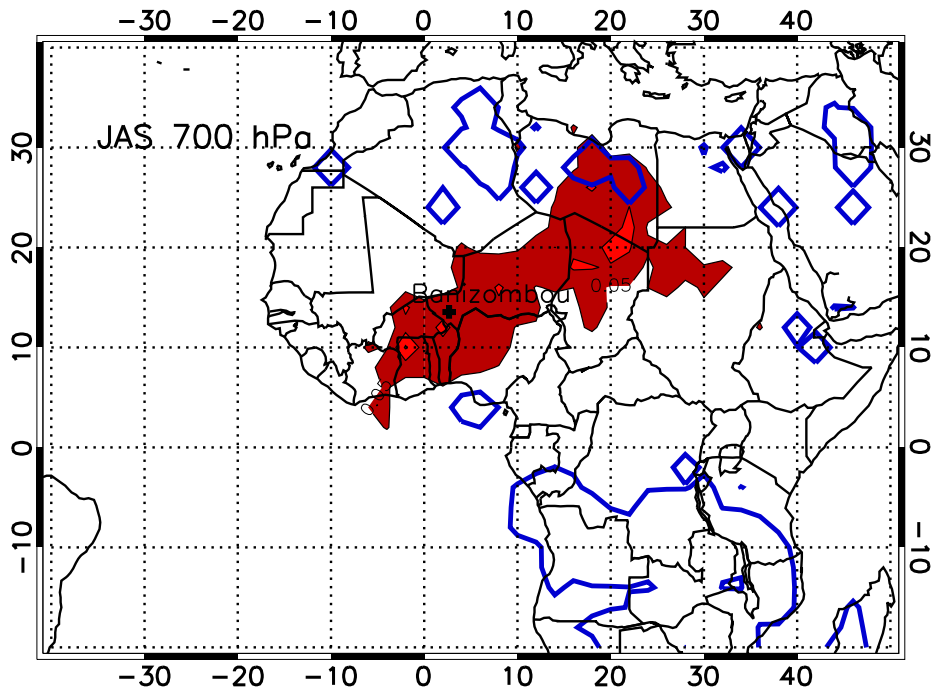


Figure S3

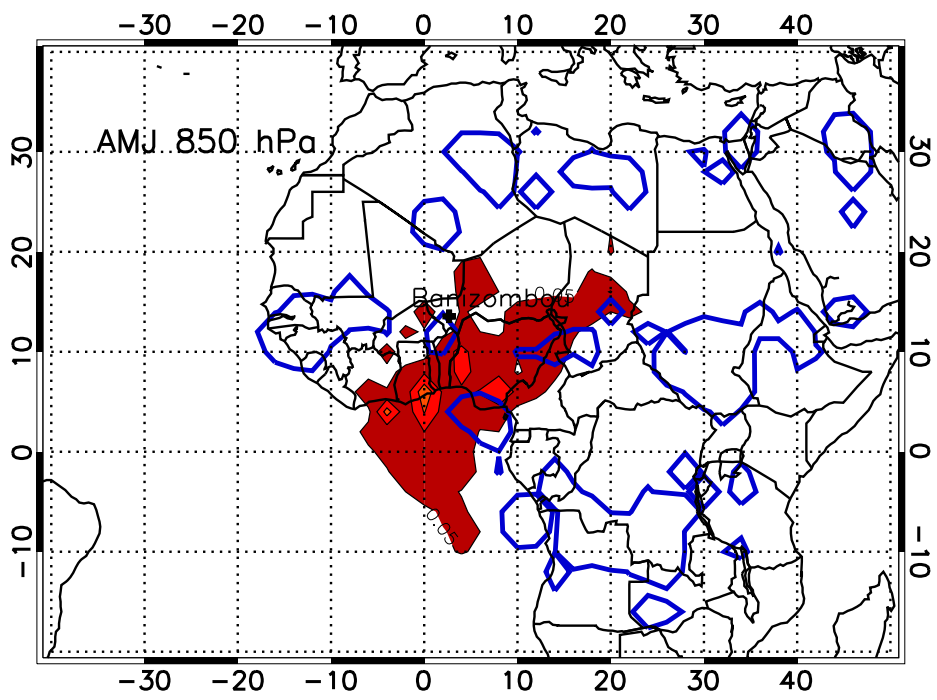
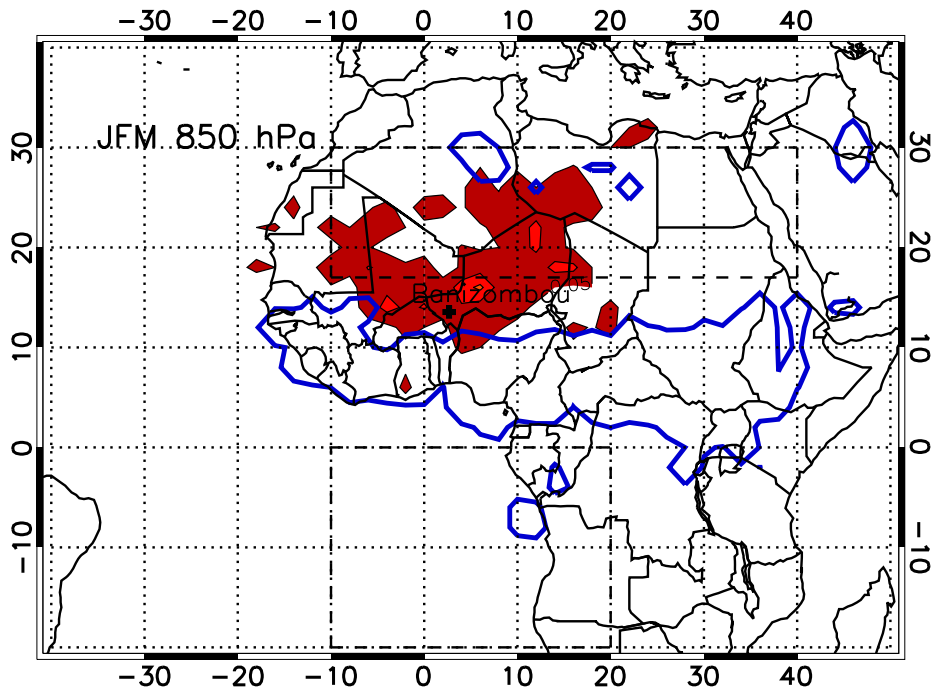


Figure S3

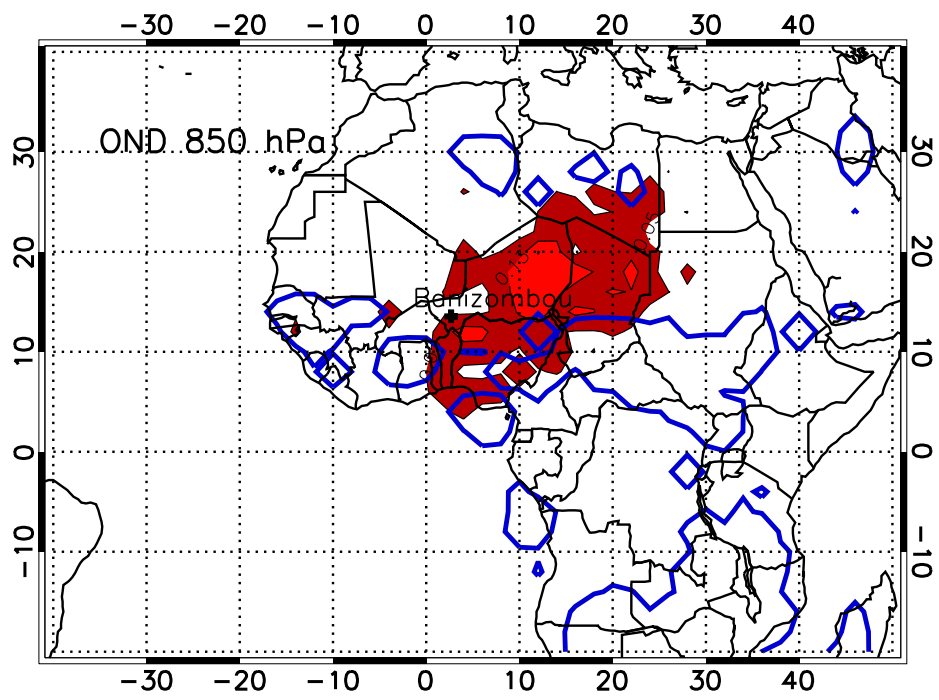
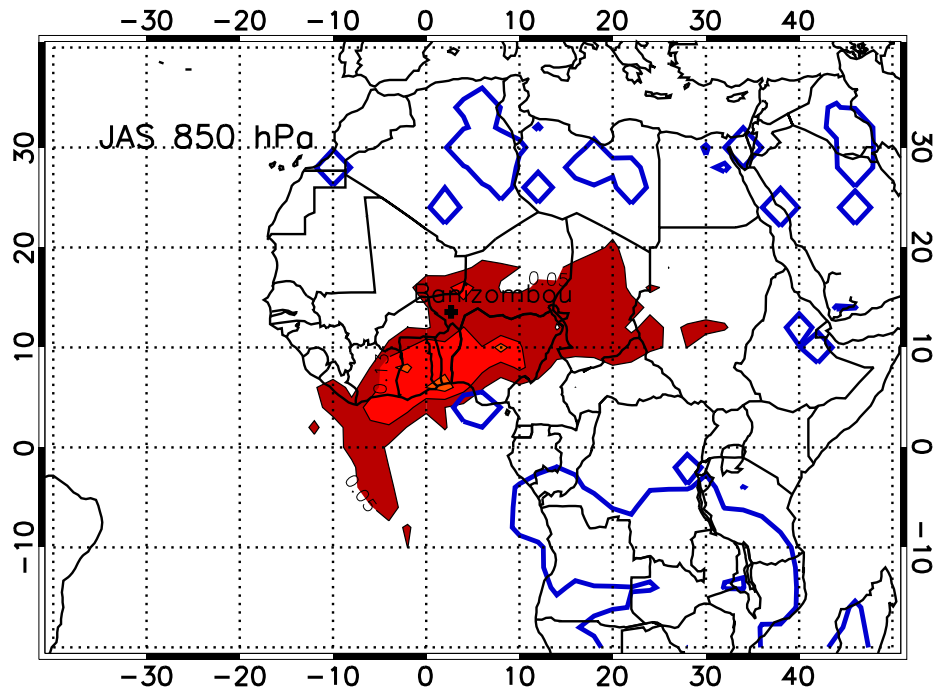


Figure S3

Following **Figure S4**. Number of trajectories per day averaged in different season during 2006: January-February-March (JFM), April-May-June (AMJ), June-August-September (JAS), October-November-December (OND).

Trajectories are binned in a 2° lat-lon grid. Red contours represent the average position 4 to 6 days before arrival at 500 hPa, 700 hPa (middle column), 850 hPa (right column) over Cinzana. Blue contours indicates areas where forest fires observed from AATSR occurs. Fire-pixel are taken into account if their number is larger than 10 in the three-months period.

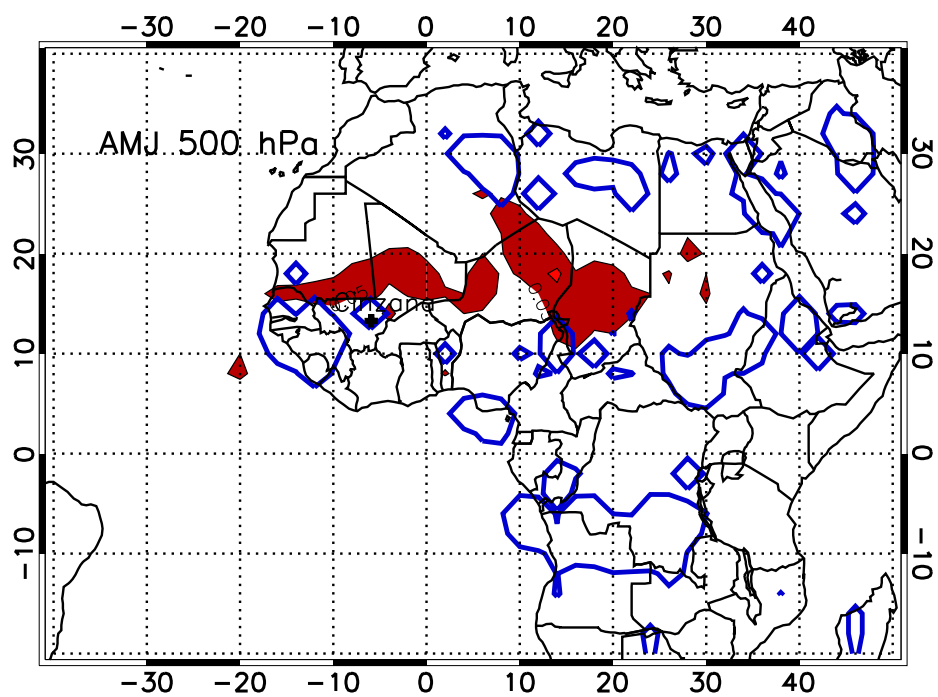
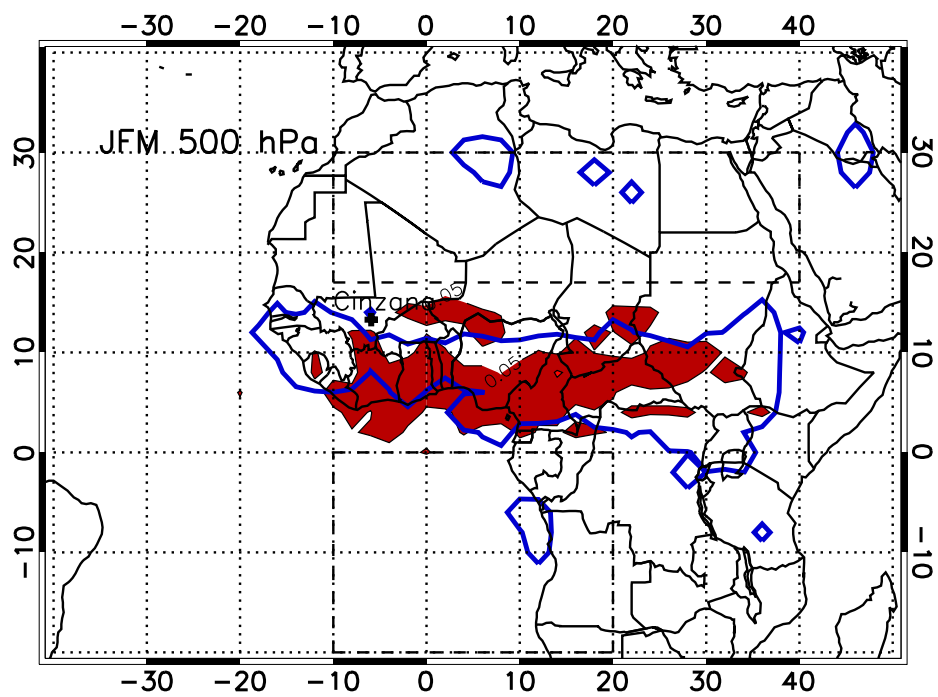


Figure S4

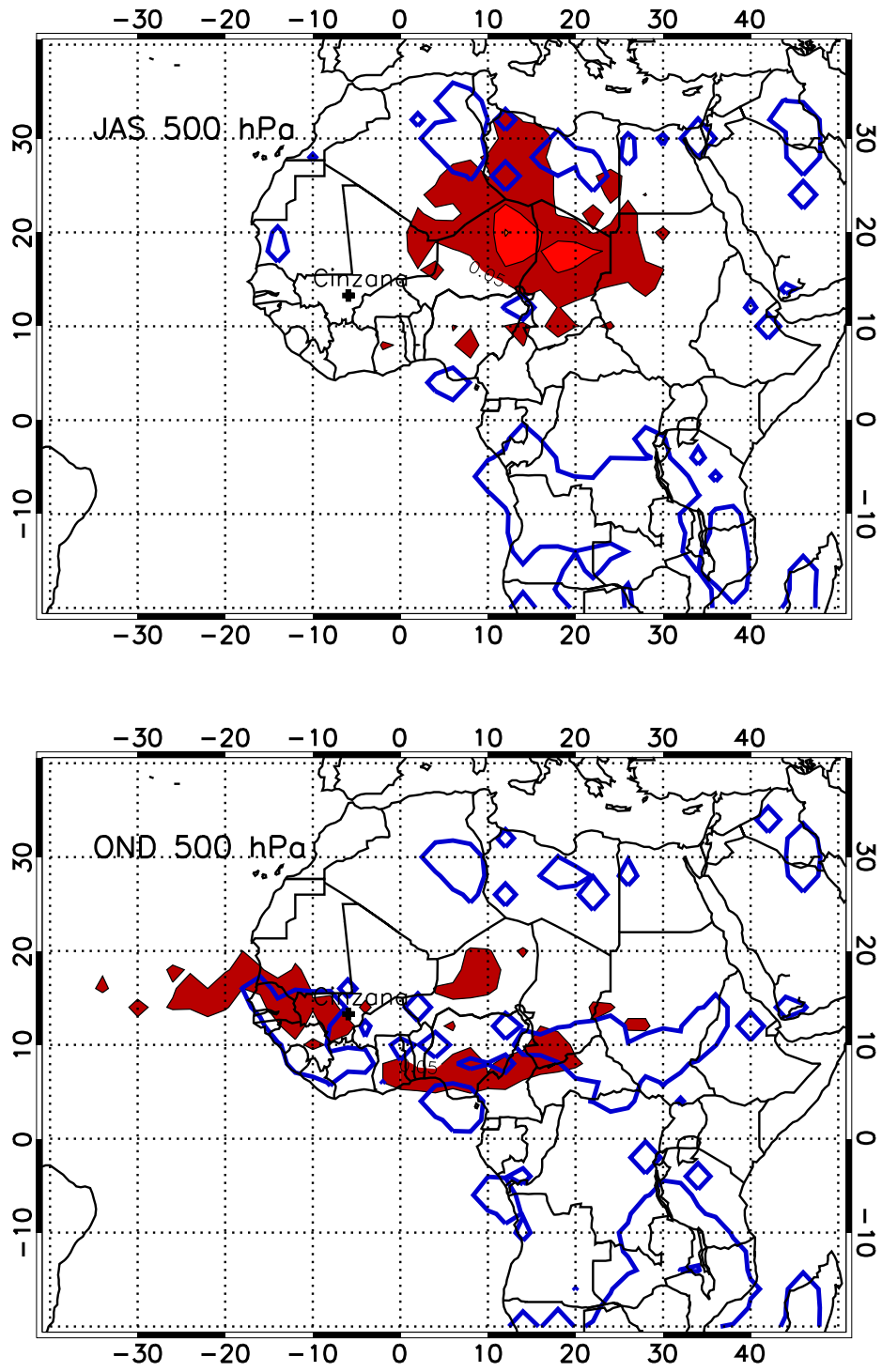


Figure S4

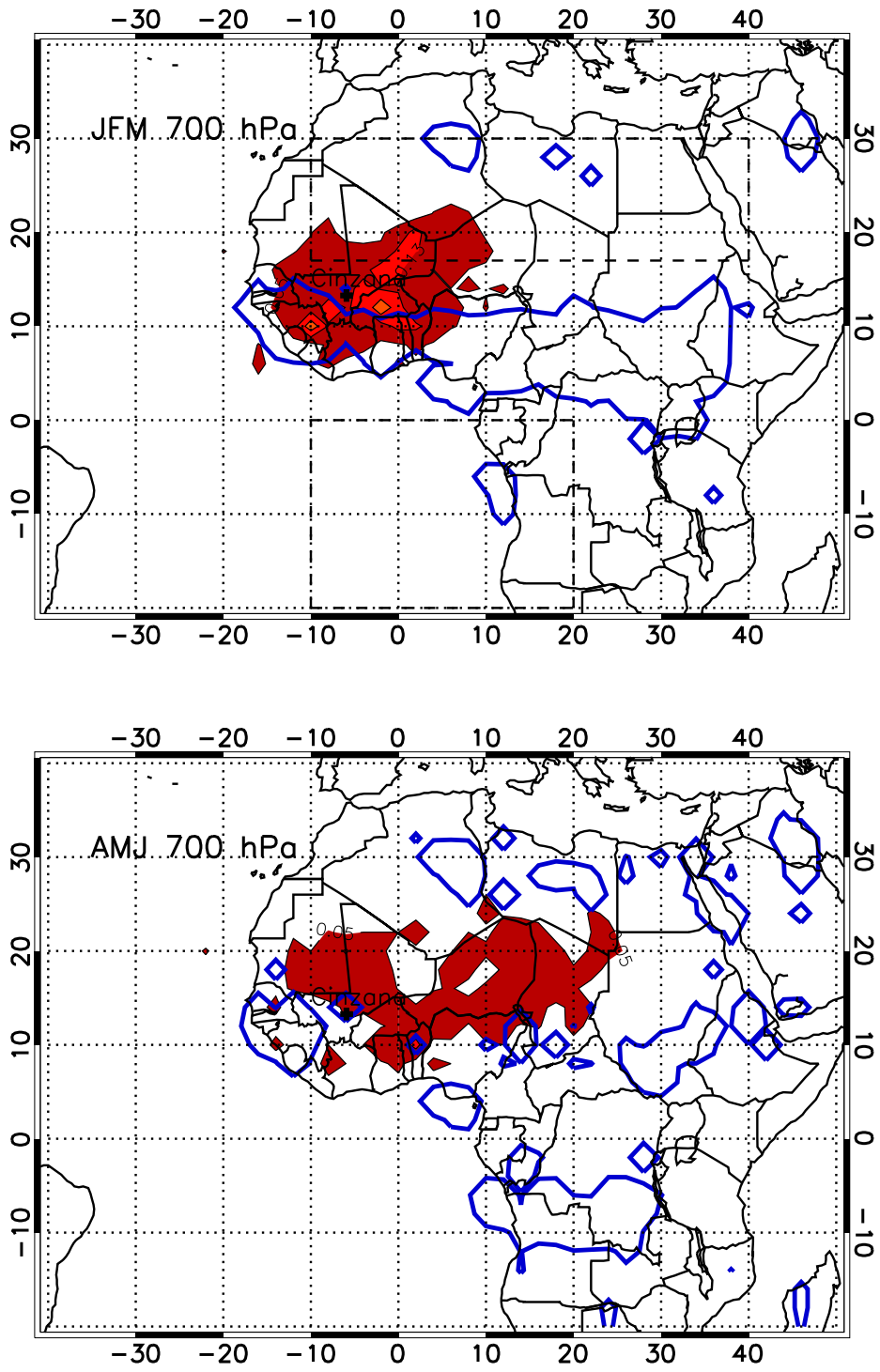


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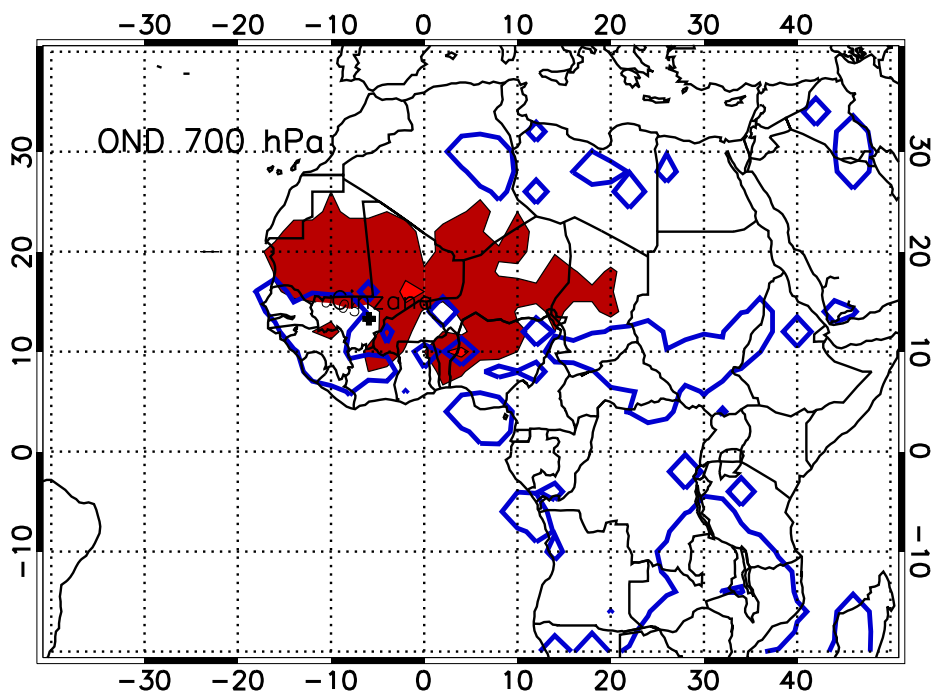
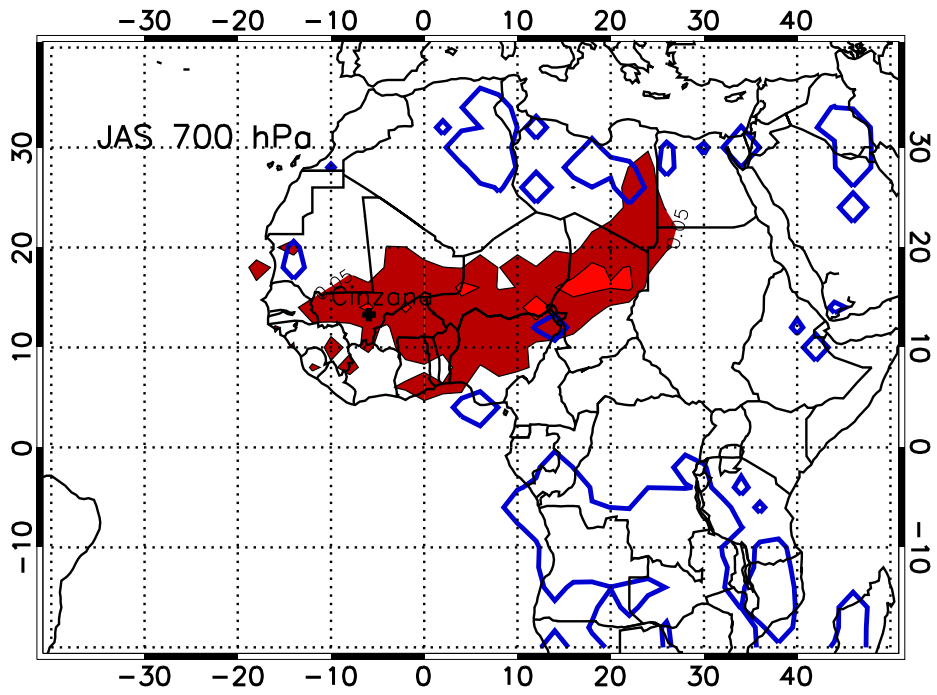


Figure S4

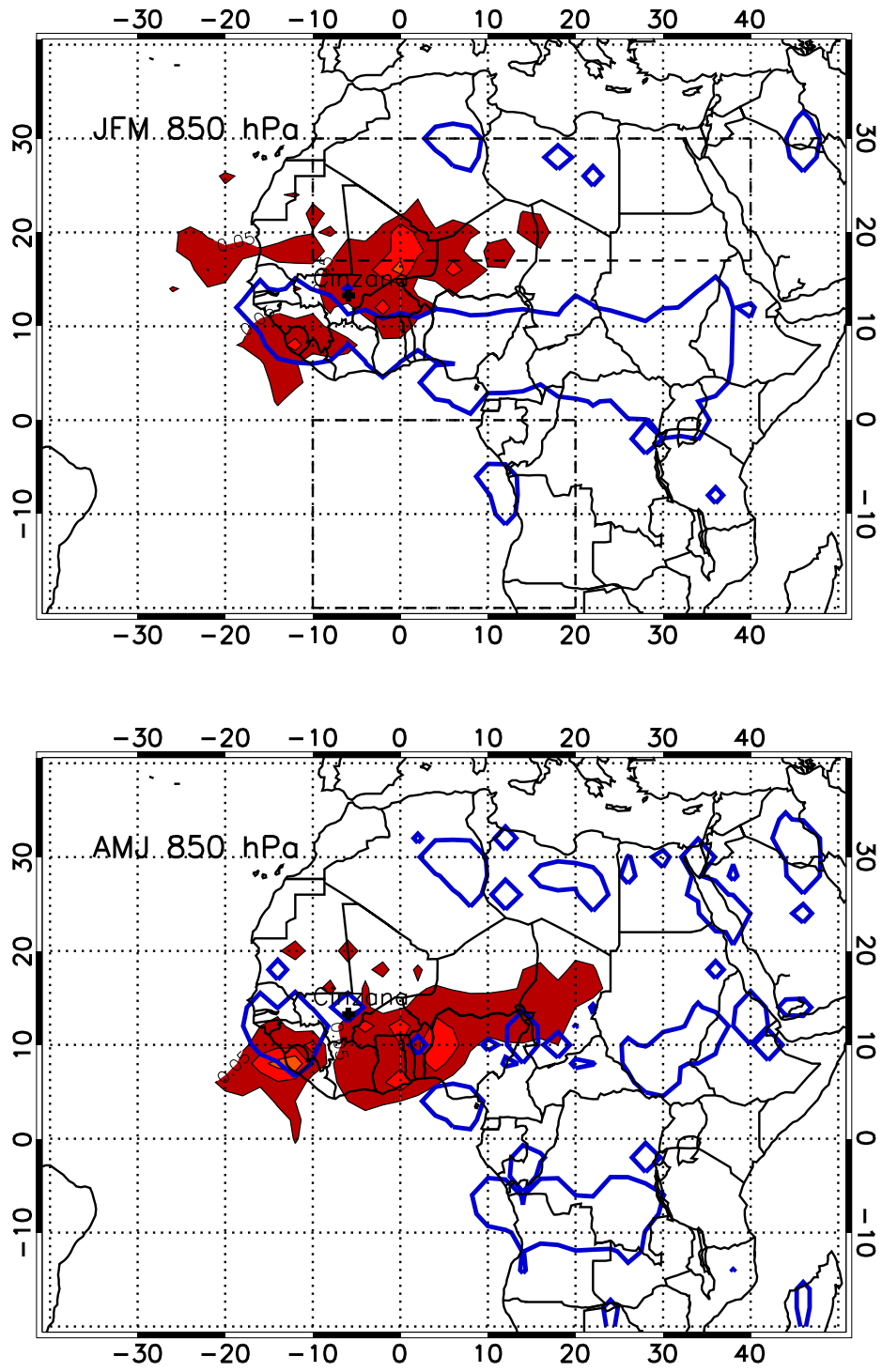


Figure S4

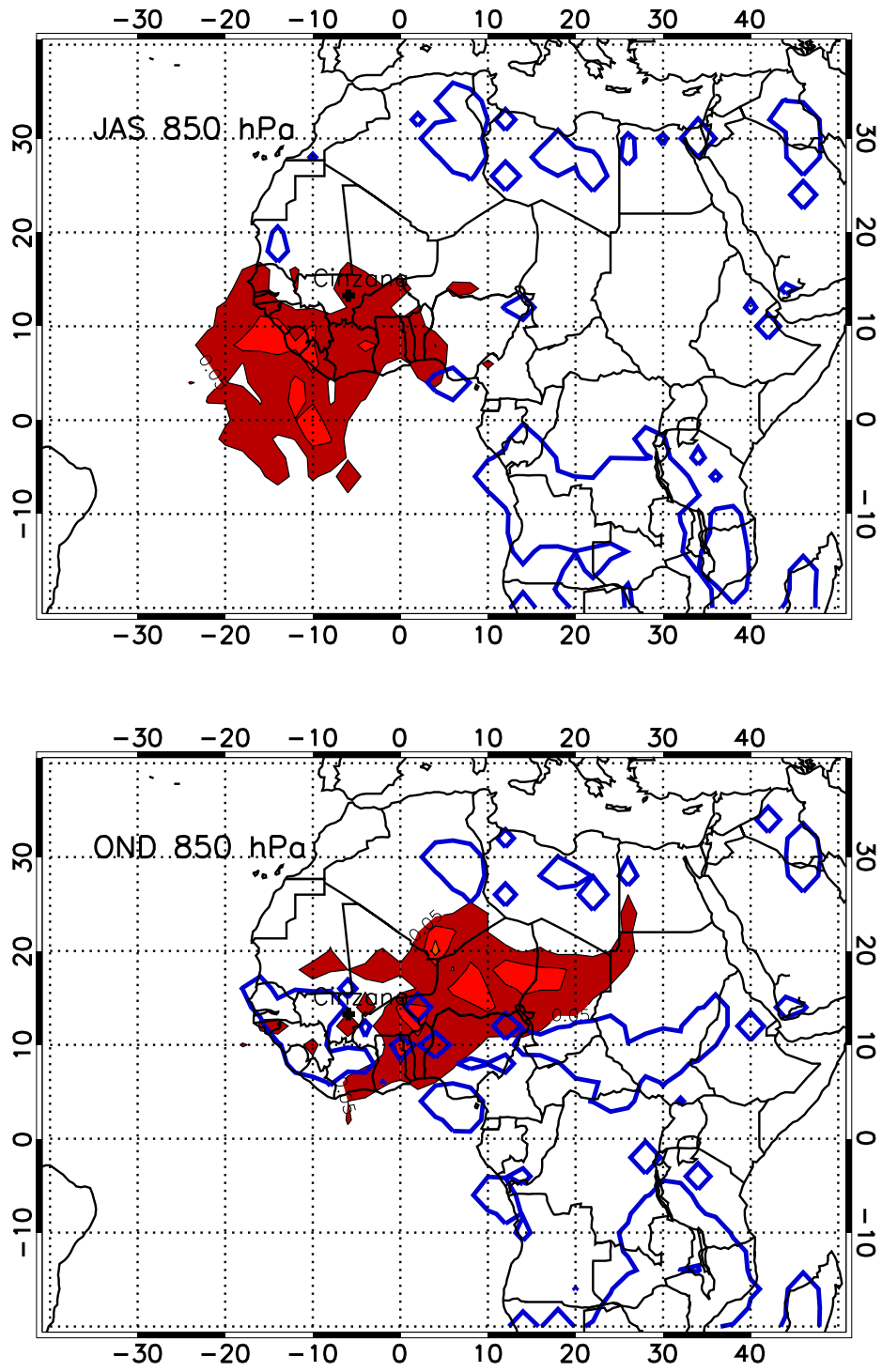


Figure S4

Following **Figure S5**. Number of trajectories per day averaged in different season during 2007: January-February-March (JFM), April-May-June (AMJ), June-August-September (JAS), October-November-December (OND).

Trajectories are binned in a 2° lat-lon grid. Red contours represent the average position 4 to 6 days before arrival at 500 hPa, 700 hPa, 850 hPa over Cinzana. Blue contours indicates areas where forest fires observed from AATSR occurs. Fire-pixel are taken into account if their number is larger than 10 in the three-months period.

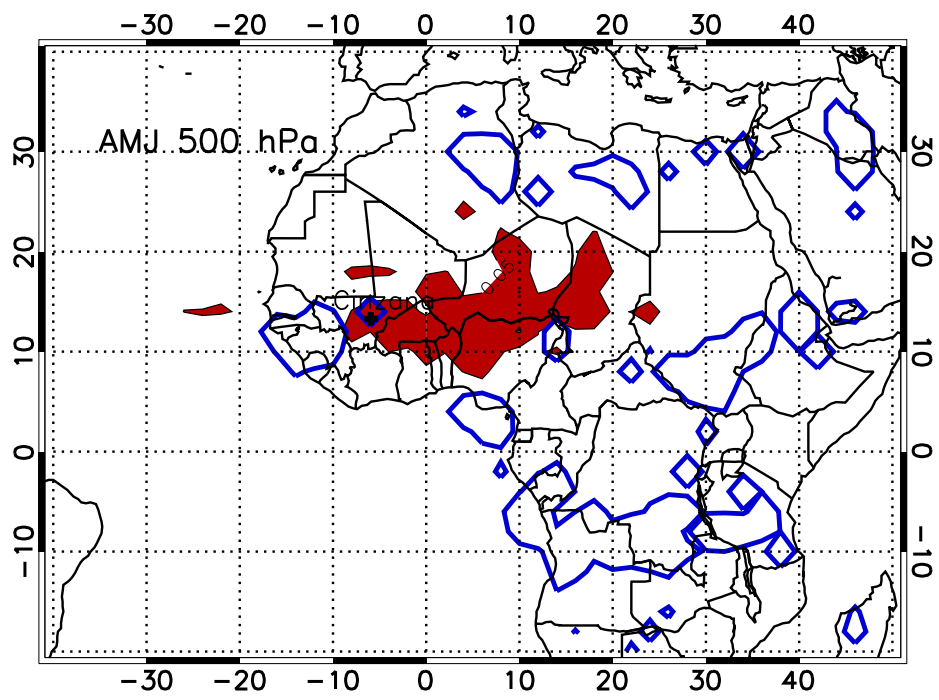
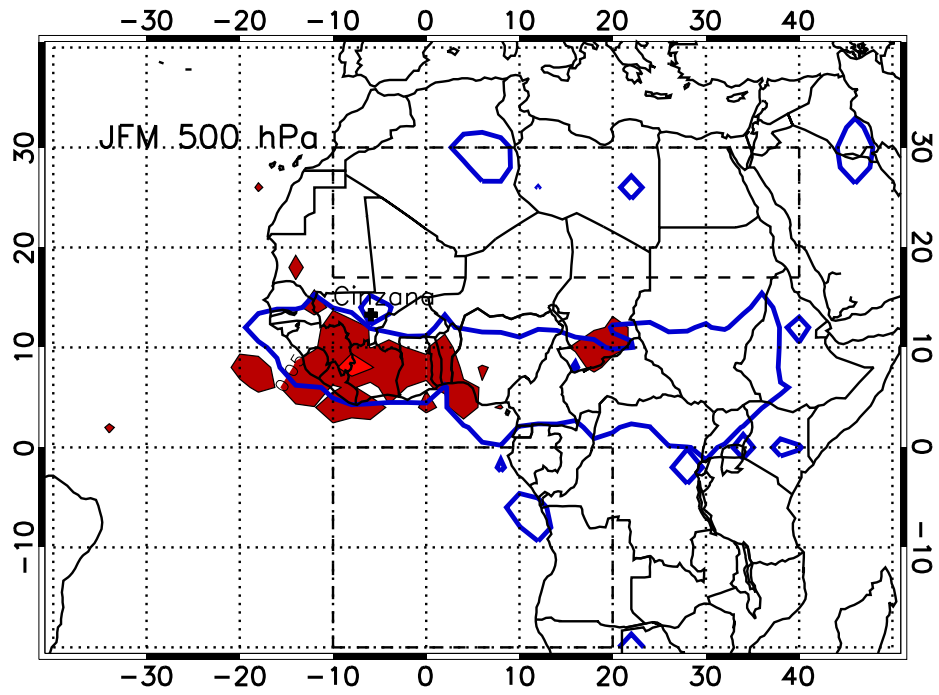


Figure S5

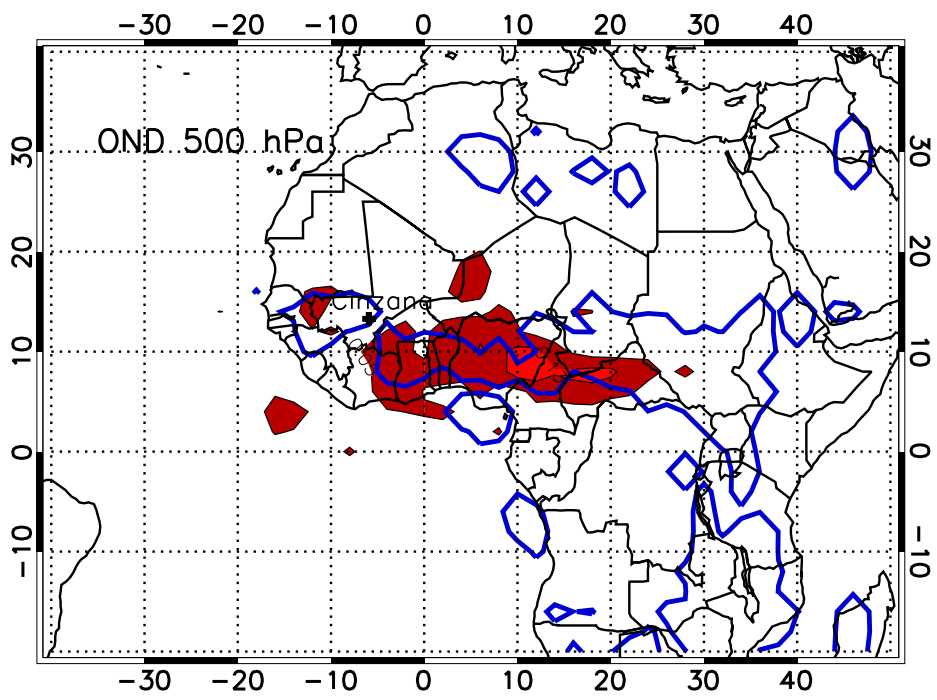
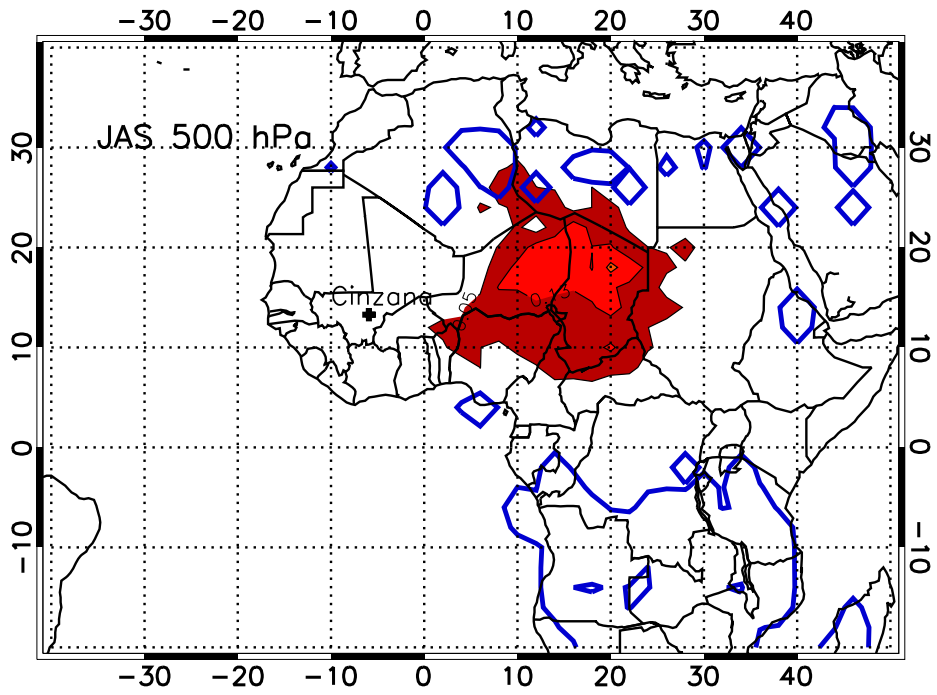


Figure S5

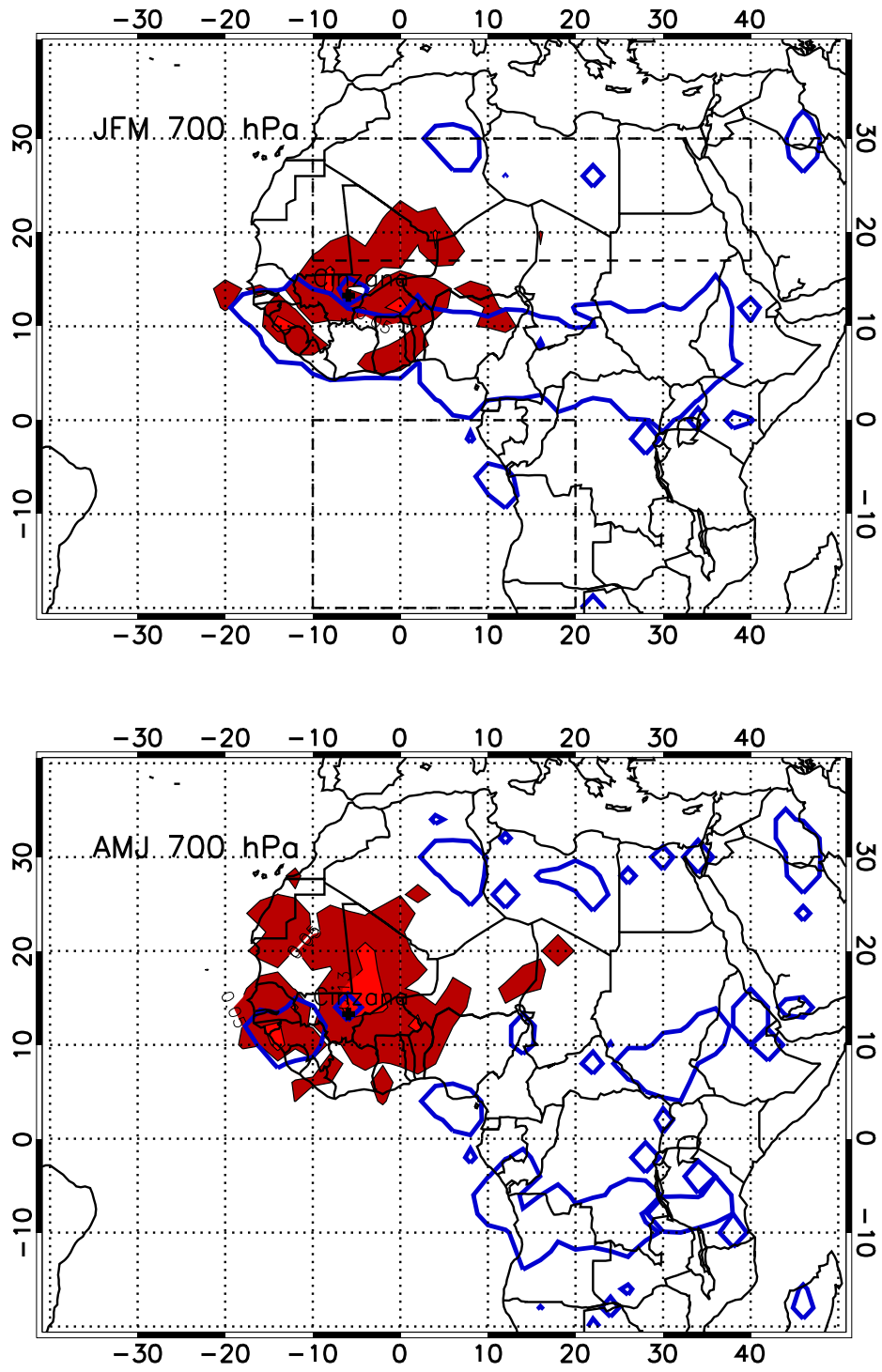


Figure S5

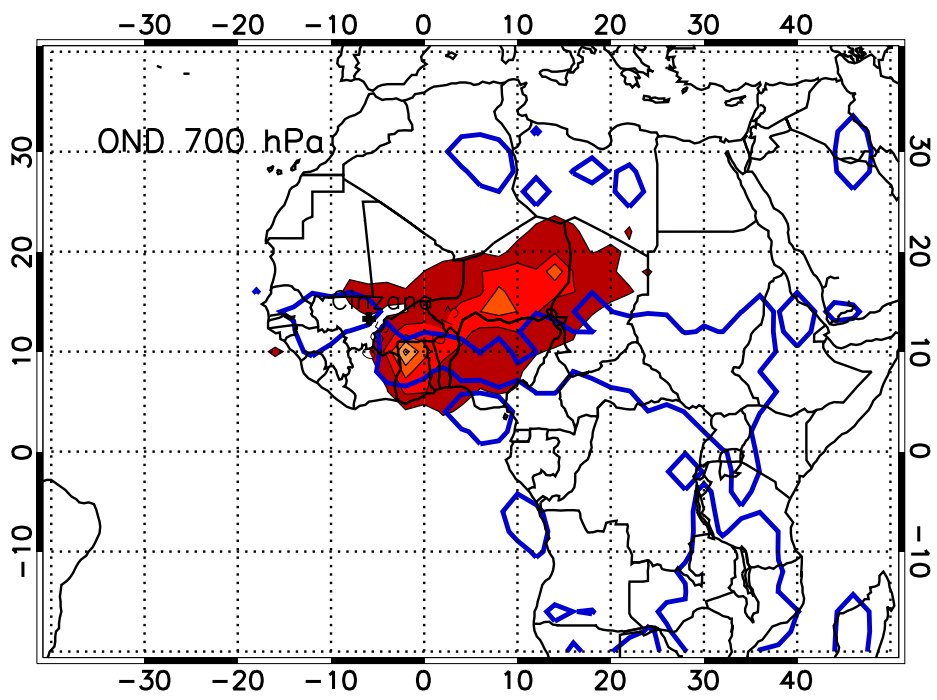
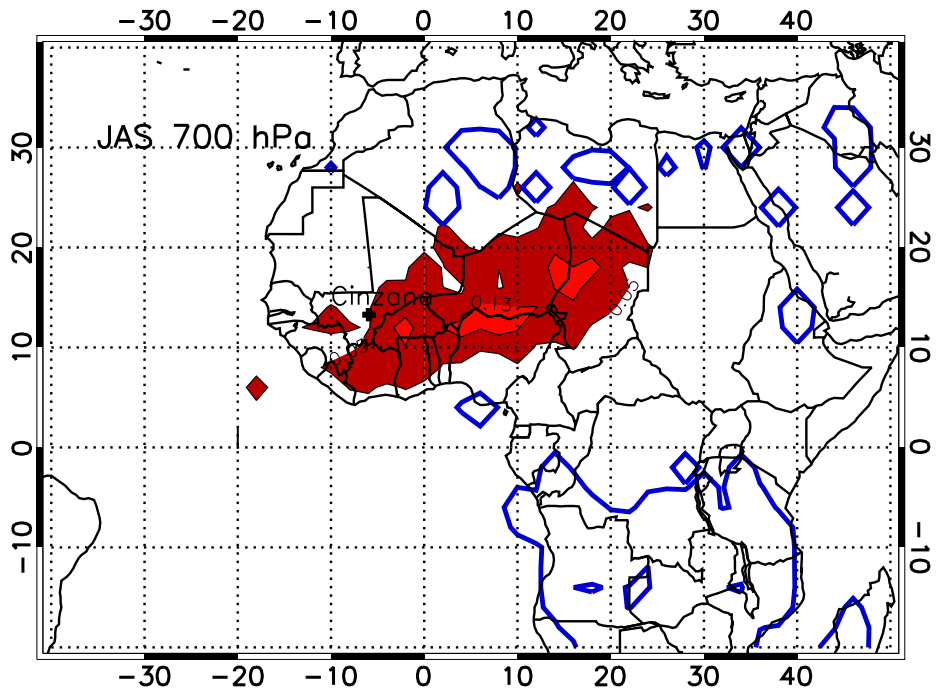


Figure S5

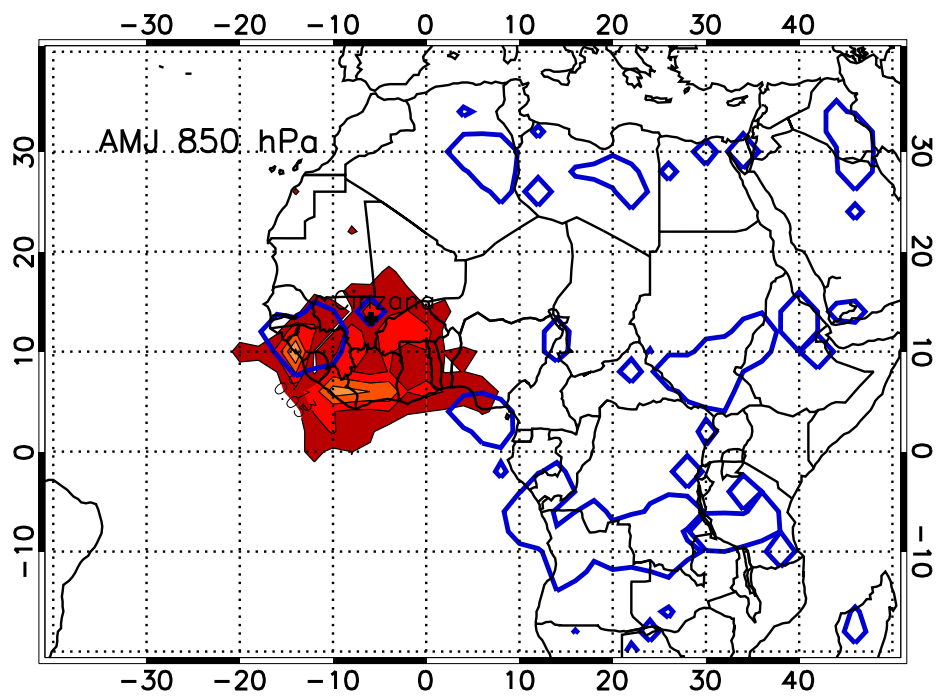
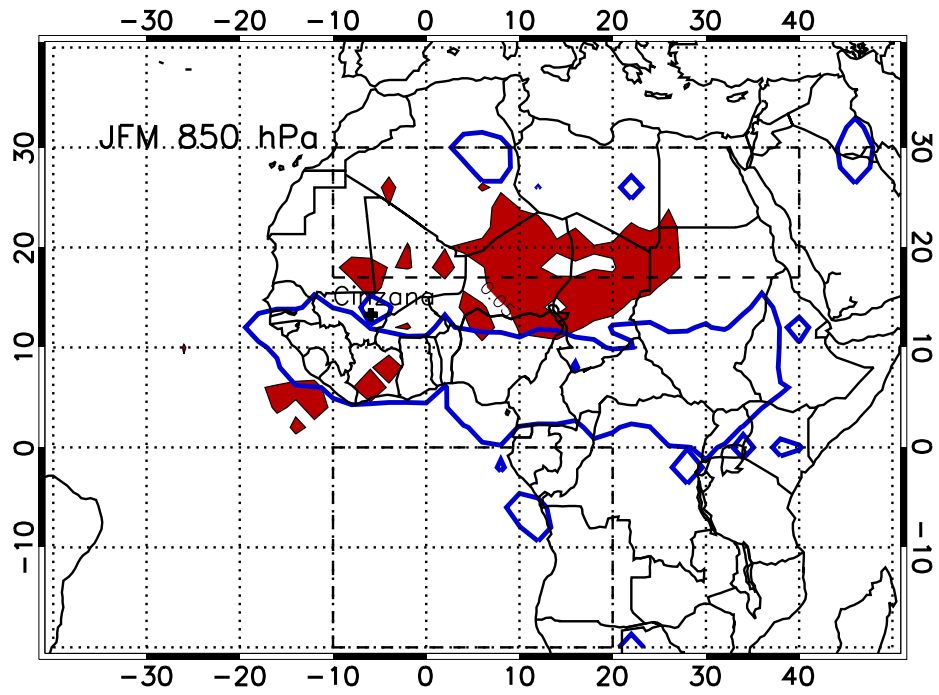


Figure S5

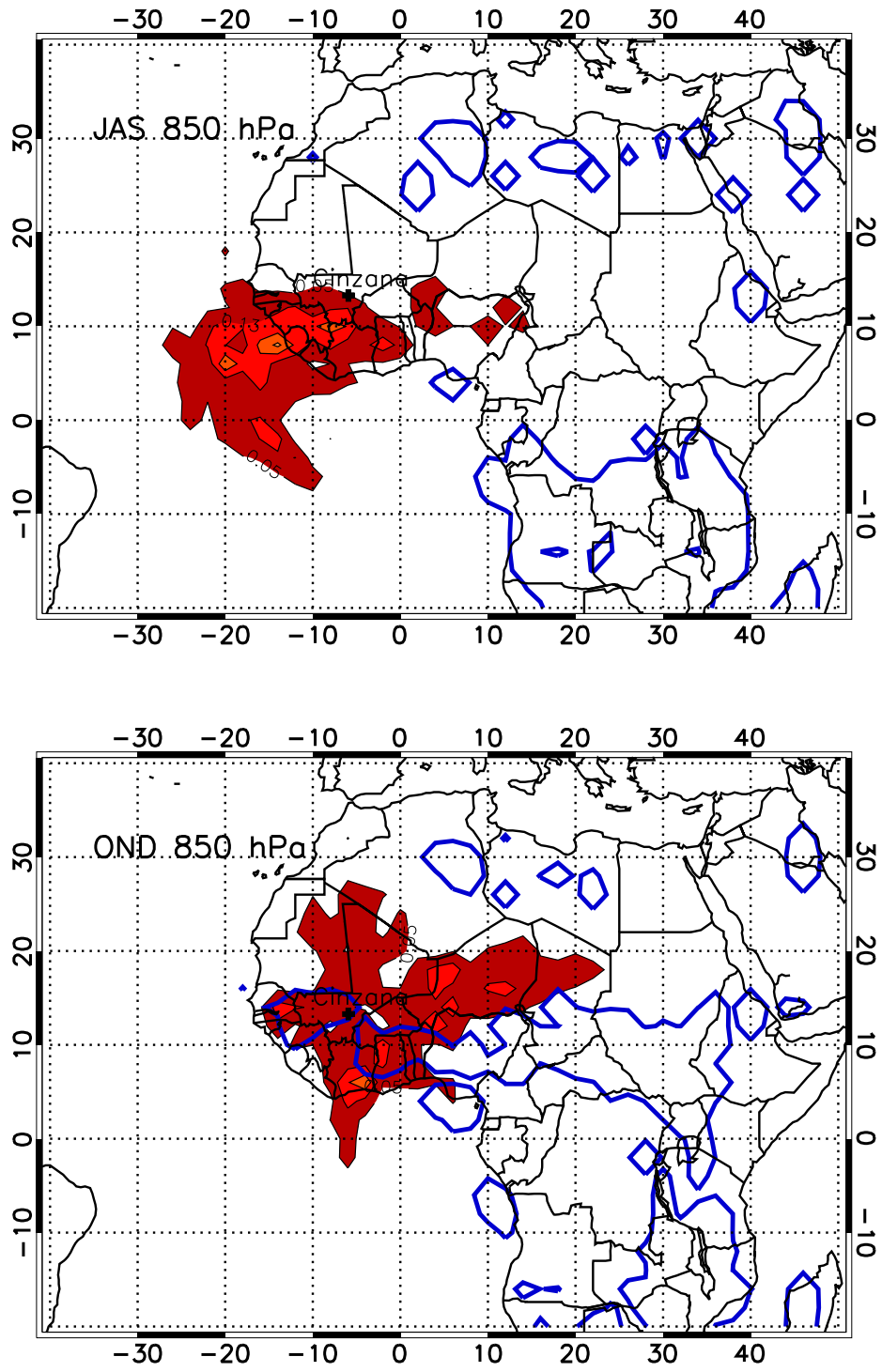


Figure S5

Following **Figure S6**. Number of trajectories per day averaged in different season during 2008: January-February-March (JFM), April-May-June (AMJ), June-August-September (JAS), October-November-December (OND).

Trajectories are binned in a 2° lat-lon grid. Red contours represent the average position 4 to 6 days before arrival at 500 hPa, 700 hPa, 500 hPa over Cinzana. Blue contours indicates areas where forest fires observed from AATSR occurs. Fire-pixel are taken into account if their number is larger than 10 in the three-months period.

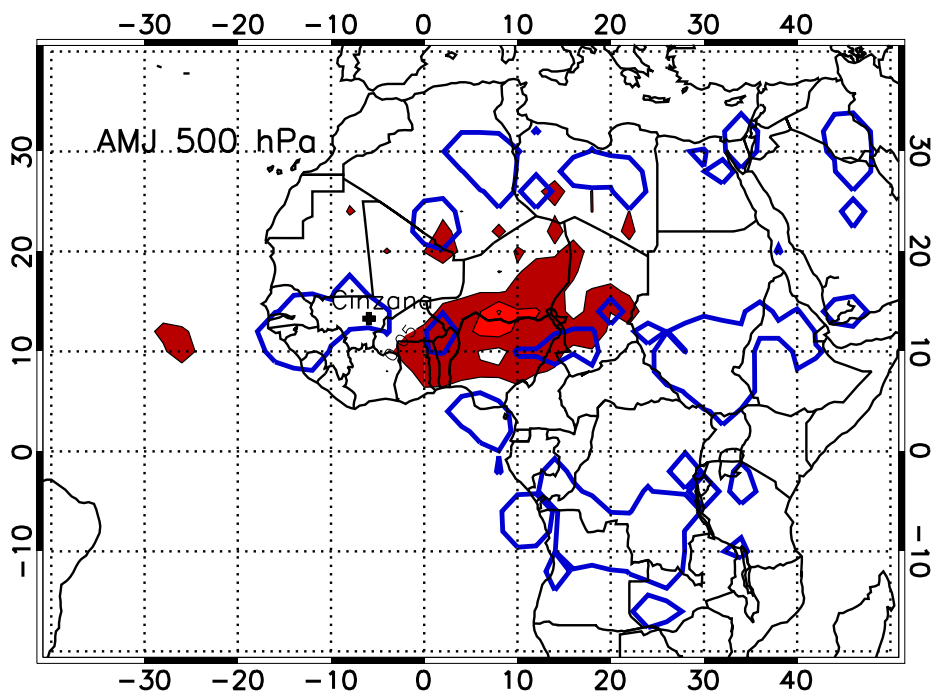
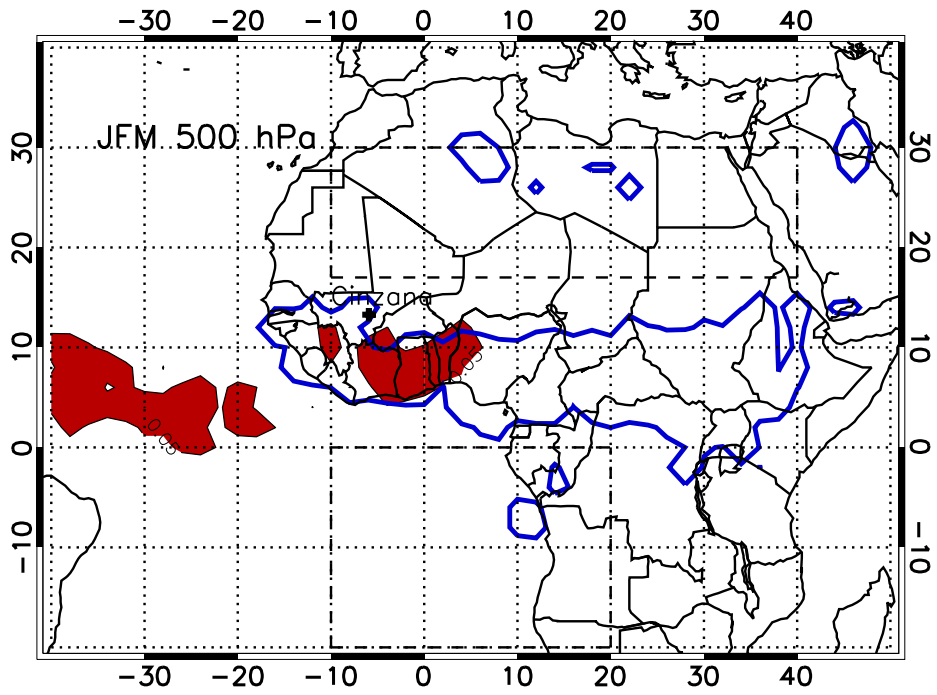


Figure S6

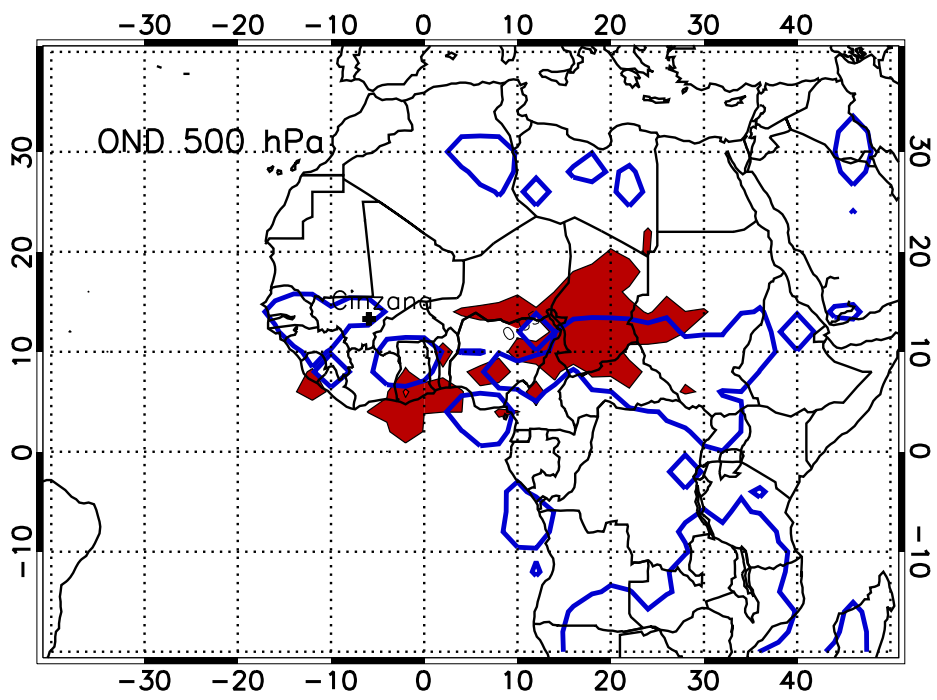
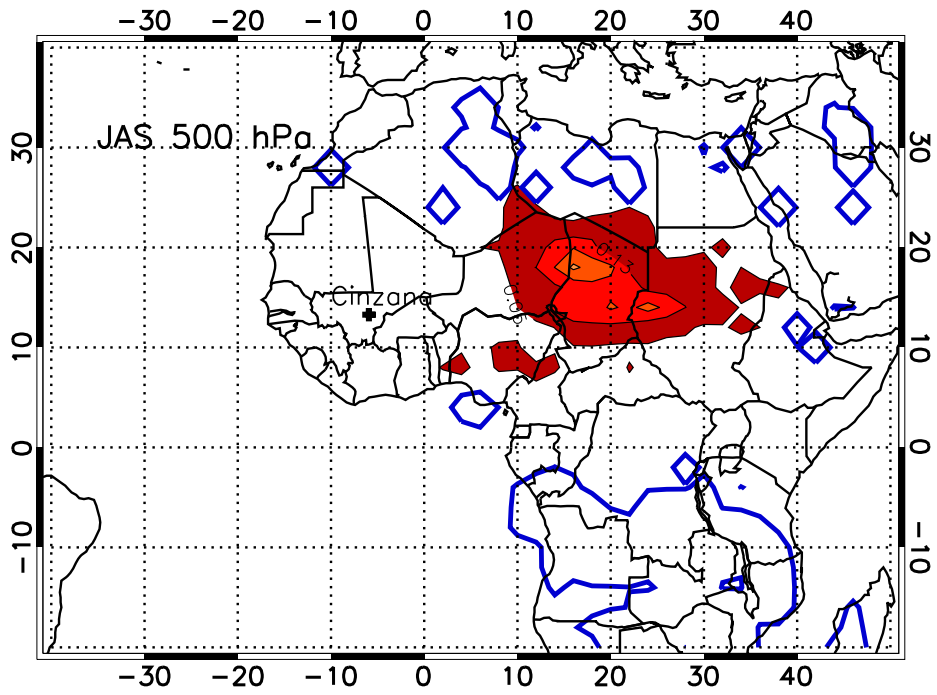


Figure S6

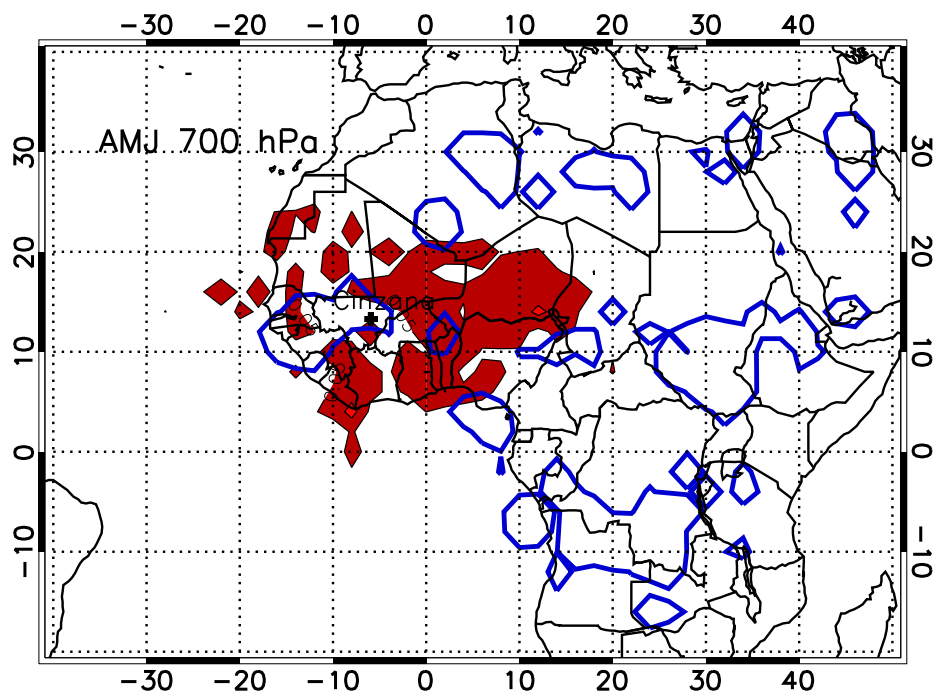
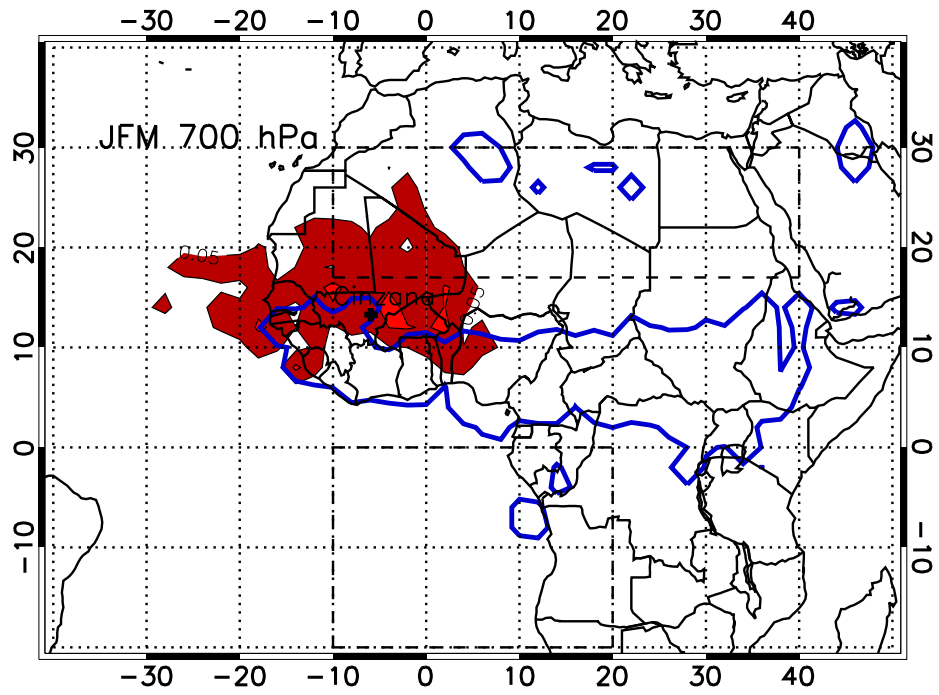


Figure S6

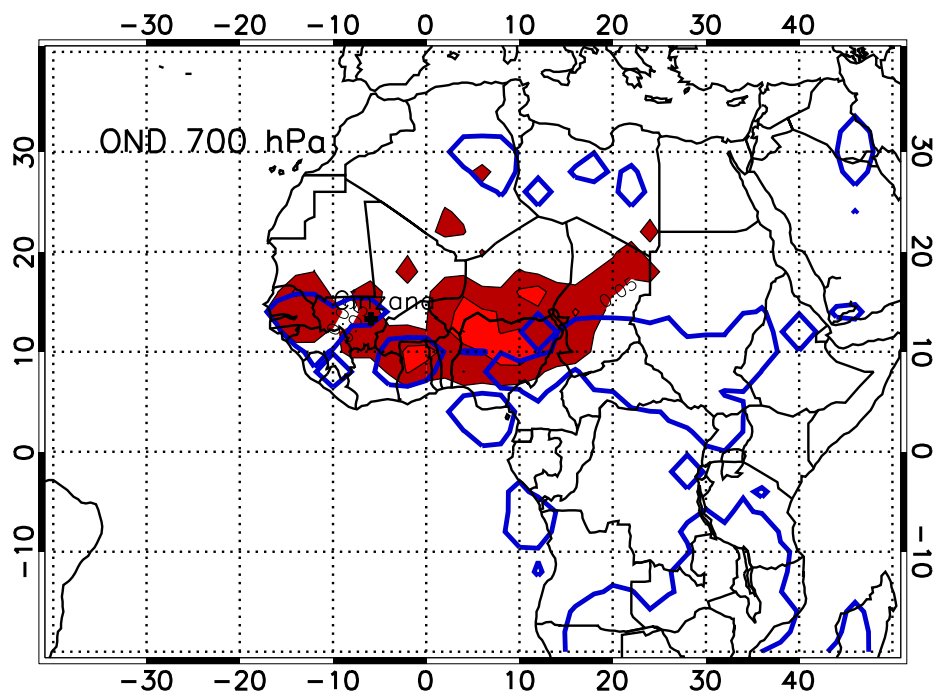
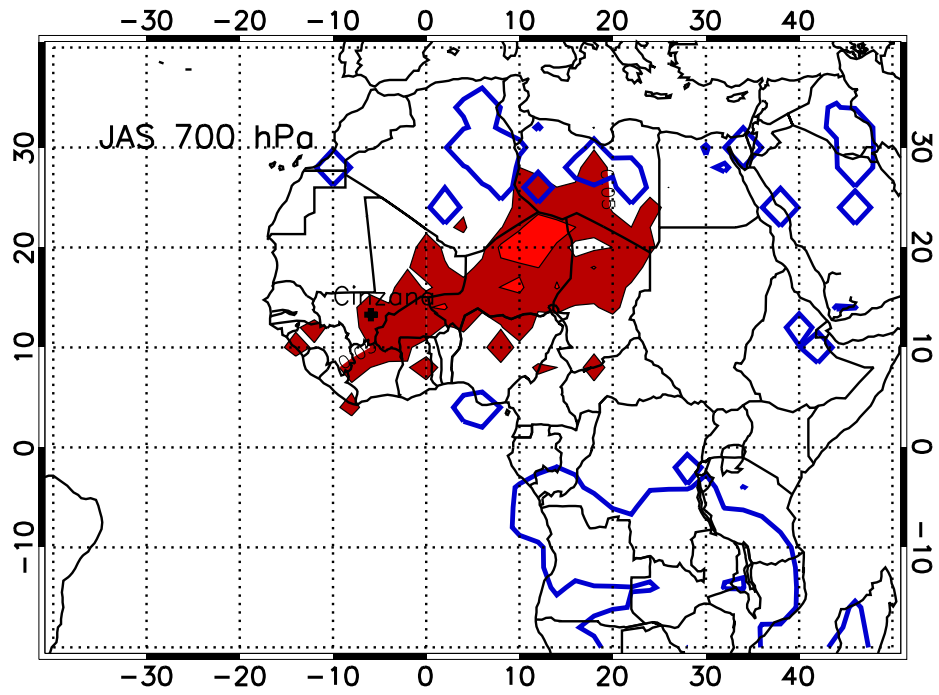


Figure S6

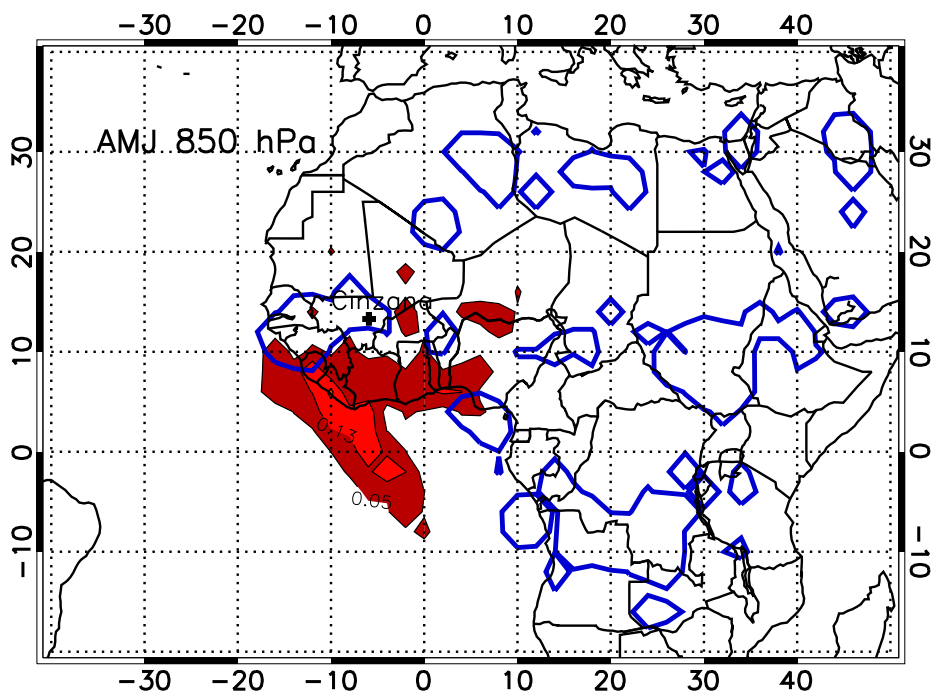
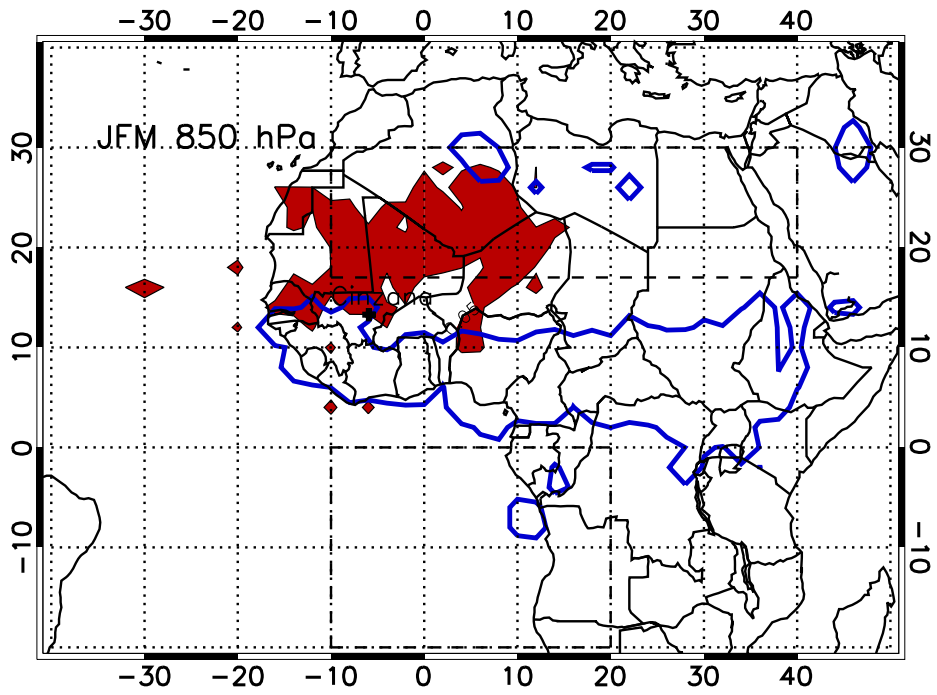


Figure S6

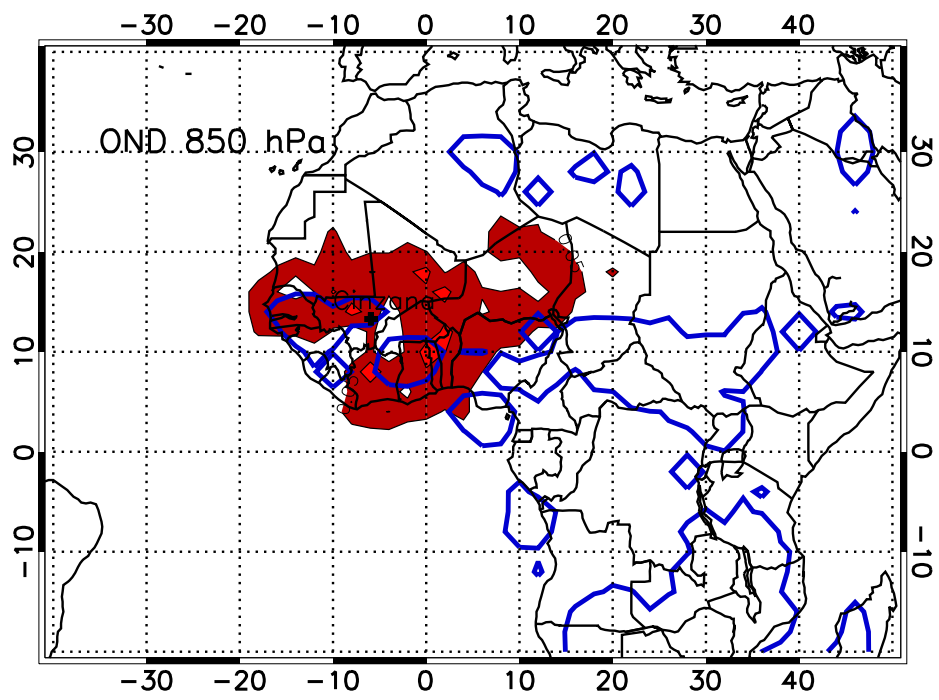
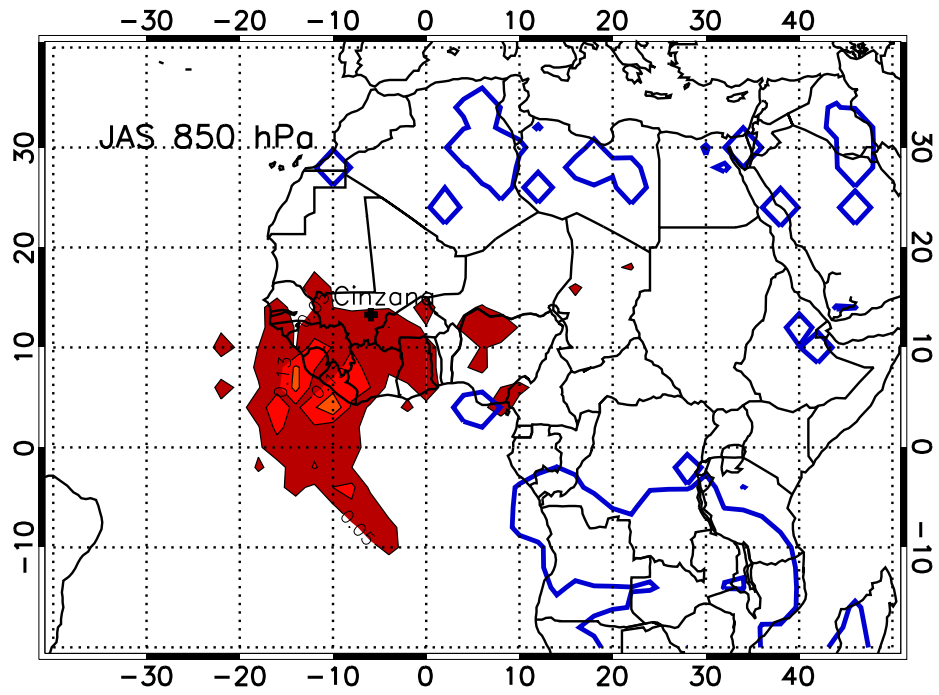


Figure S6

Following **Figure S7**. Number of trajectories per day averaged in different season during 2006: January-February-March (JFM), April-May-June (AMJ), June-August-September (JAS), October-November-December (OND).

Trajectories are binned in a 2° lat-lon grid. Red contours represent the average position 4 to 6 days before arrival at 500 hPa, 700 hPa, 850 hPa over M'Bour. Blue contours indicates areas where forest fires observed from AATSR occurs. Fire-pixel are taken into account if their number is larger than 10 in the three-months period.

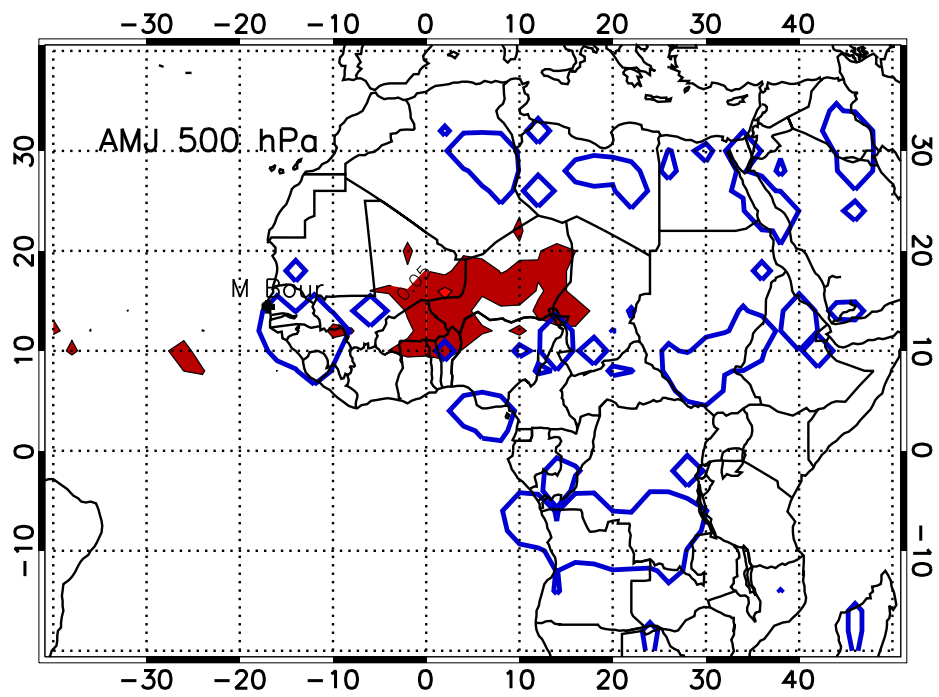
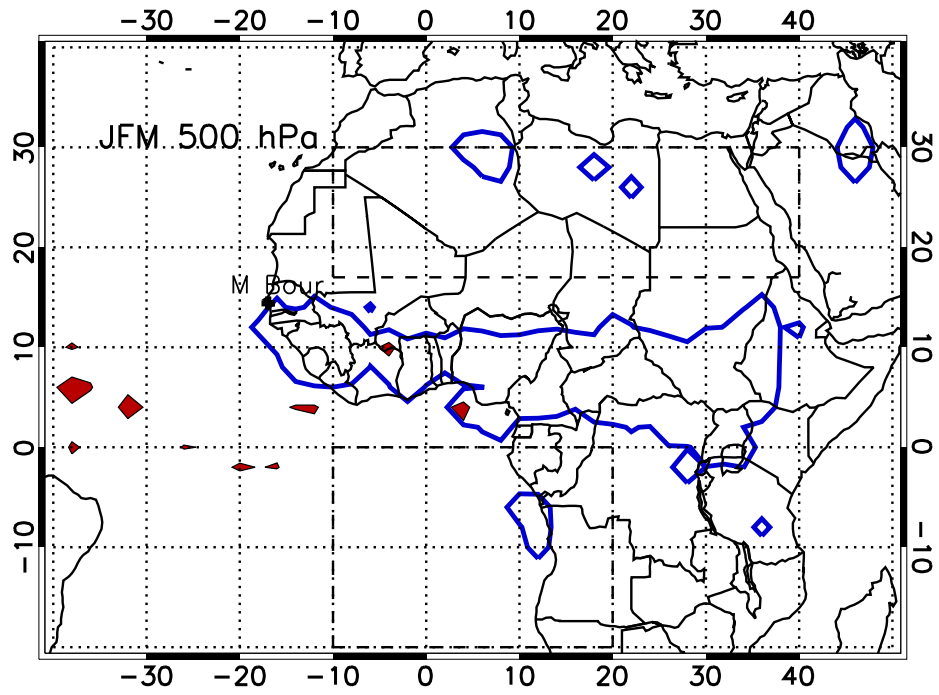
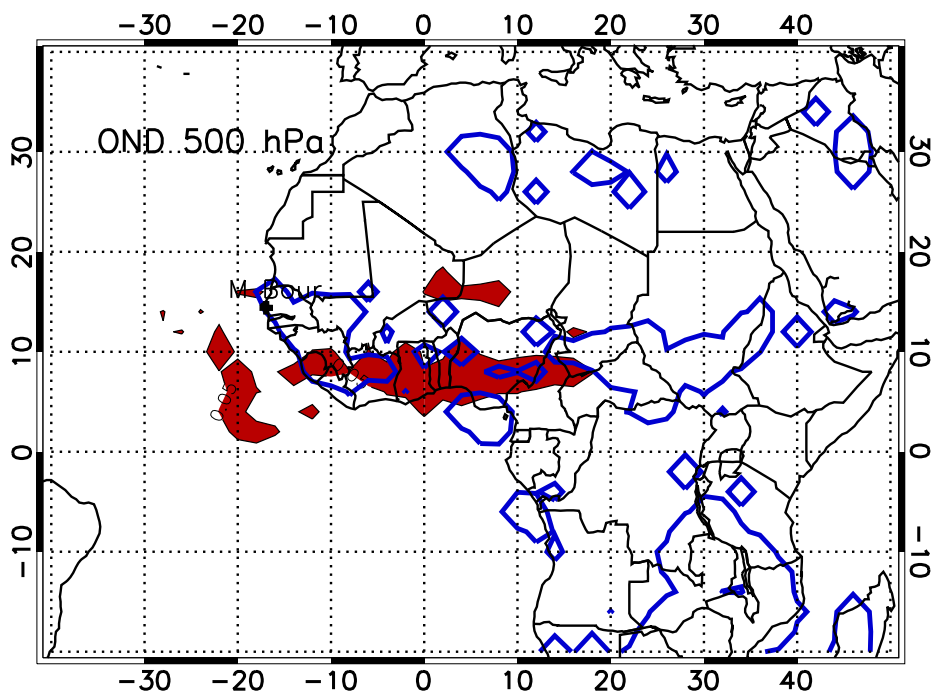
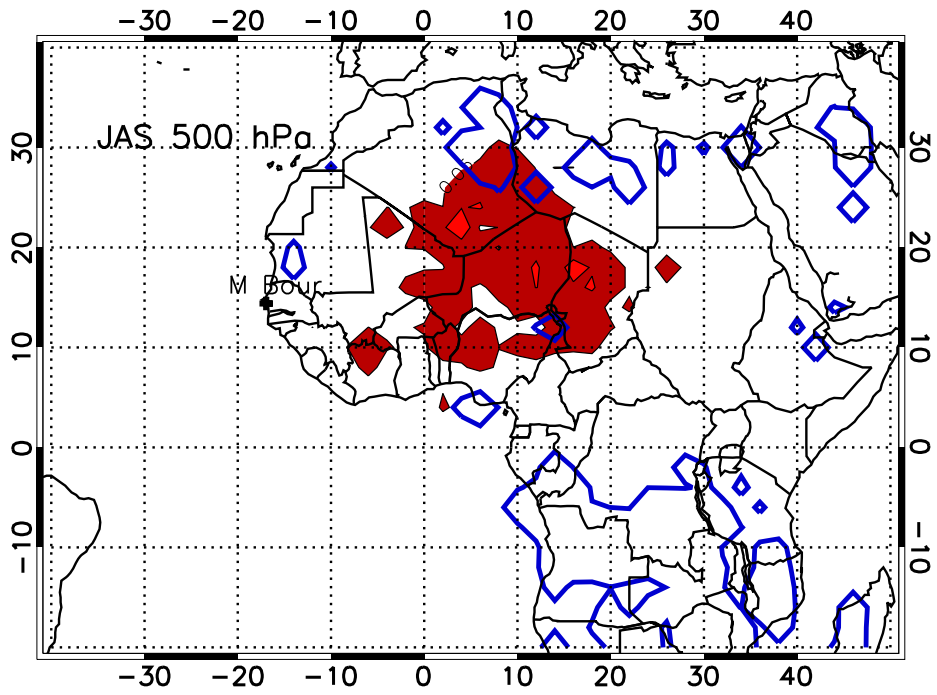


Figure S7.



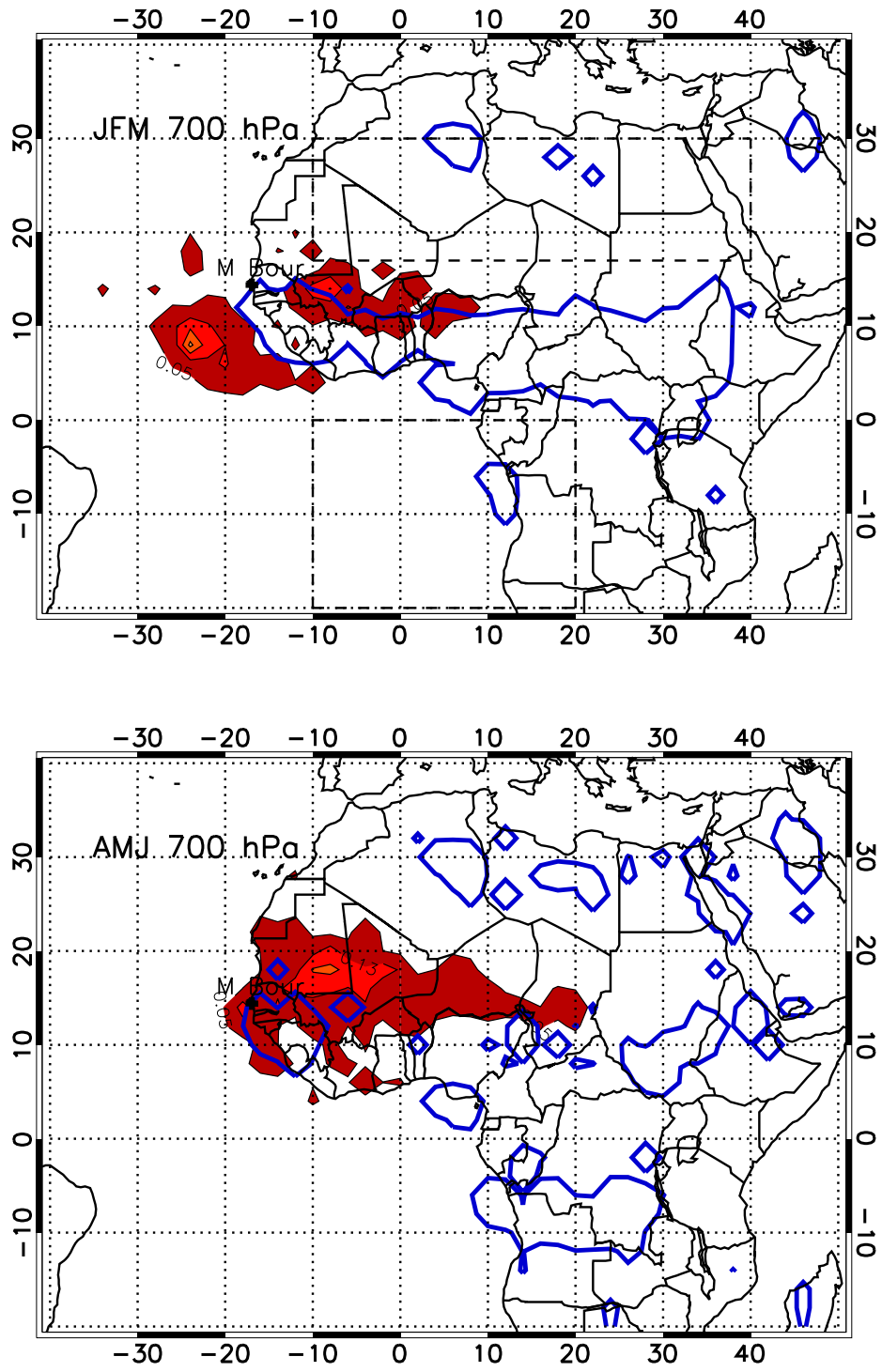
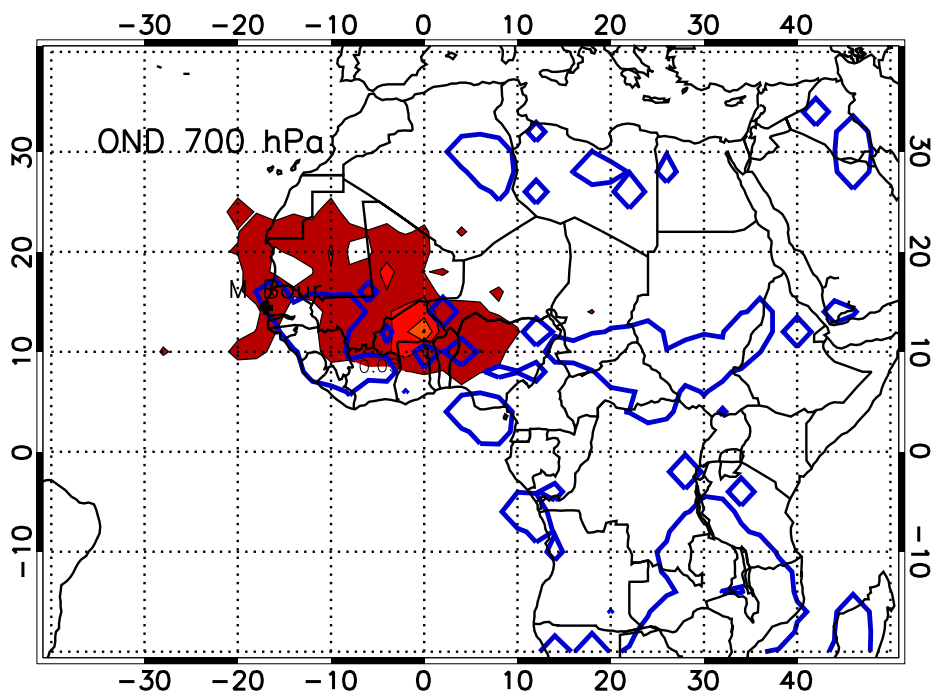
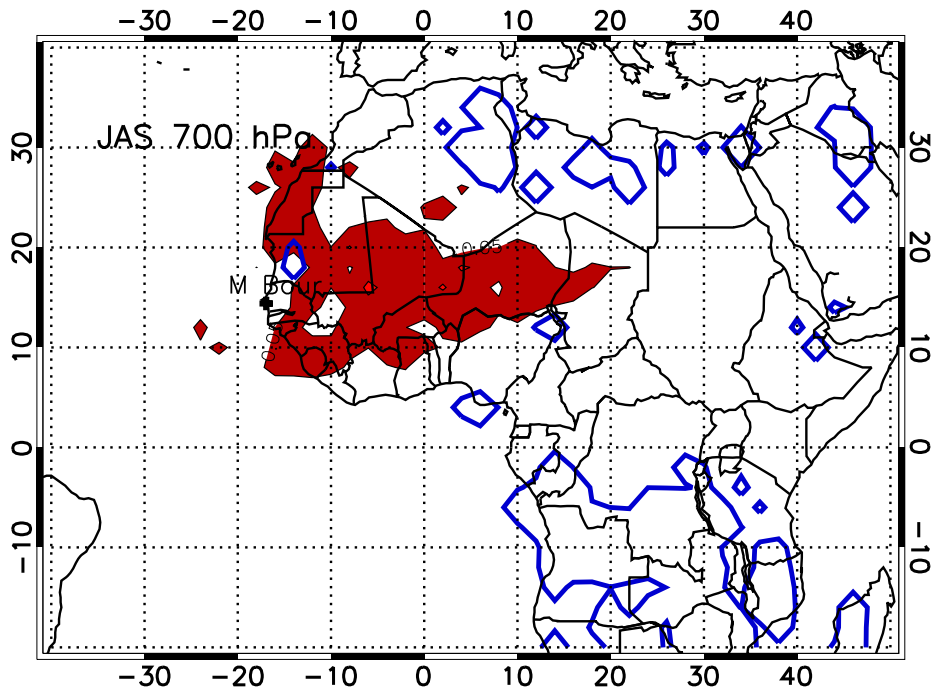


Figure S7.



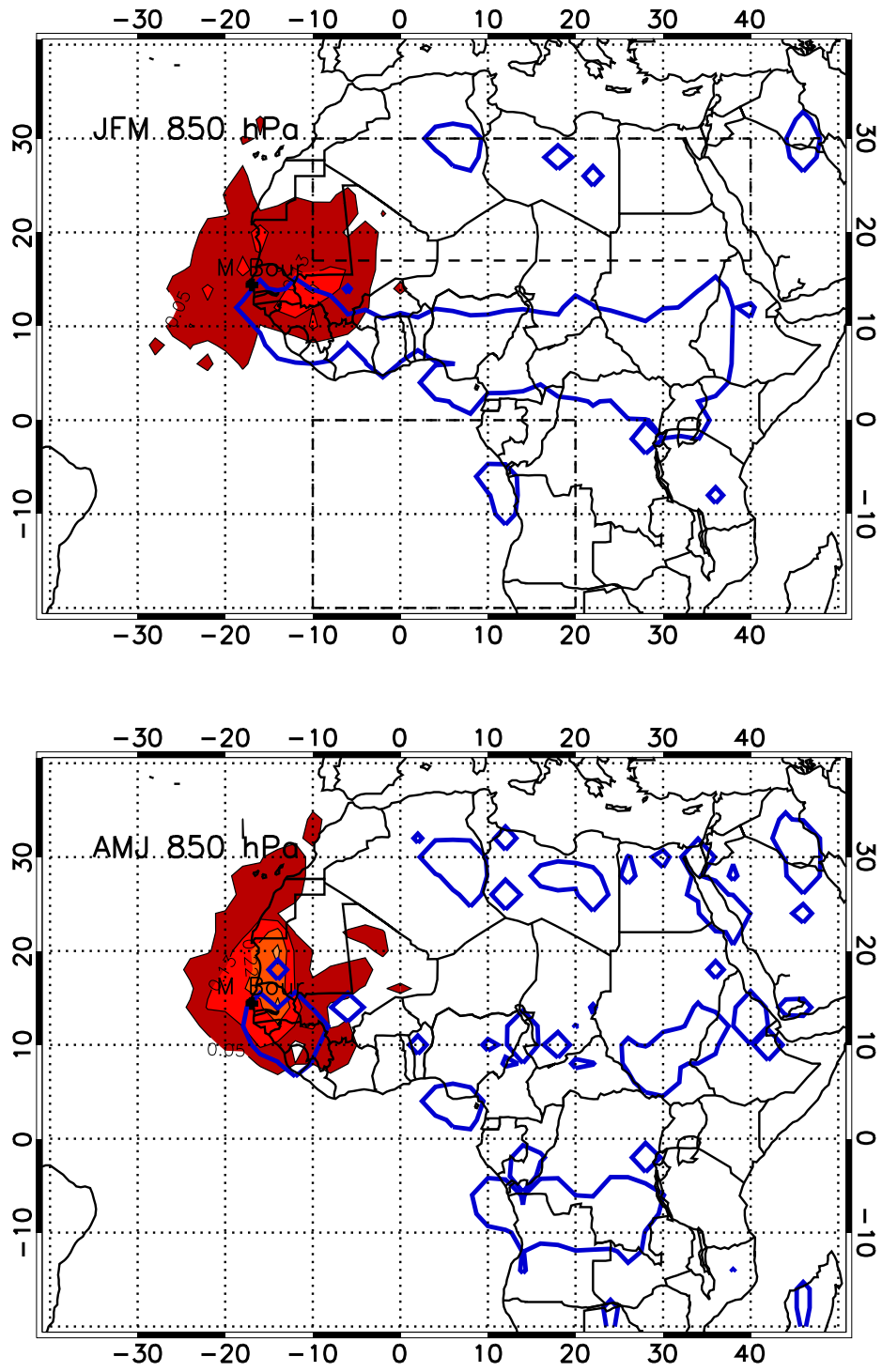


Figure S7.

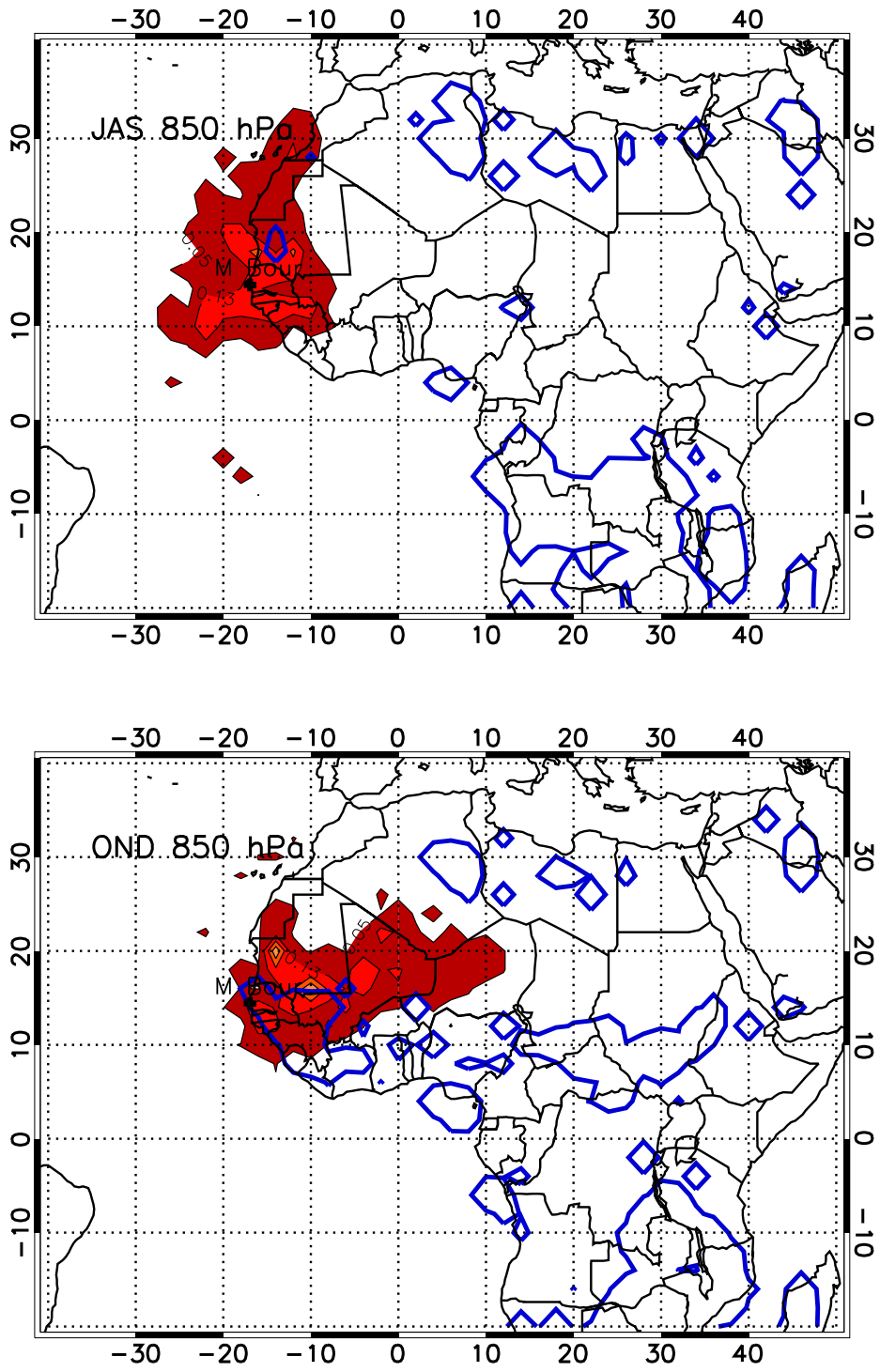


Figure S7.

Following **Figure S8**. Number of trajectories per day averaged in different season during 2007: January-February-March (JFM), April-May-June (AMJ), June-August-September (JAS), October-November-December (OND).

Trajectories are binned in a 2° lat-lon grid. Red contours represent the average position 4 to 6 days before arrival at 500 hPa, 700 hPa, 850 hPa over in M'Bour. Blue contours indicates areas where forest fires observed from AATSR occurs. Fire-pixel are taken into account if their number is larger than 10 in the three-months period.

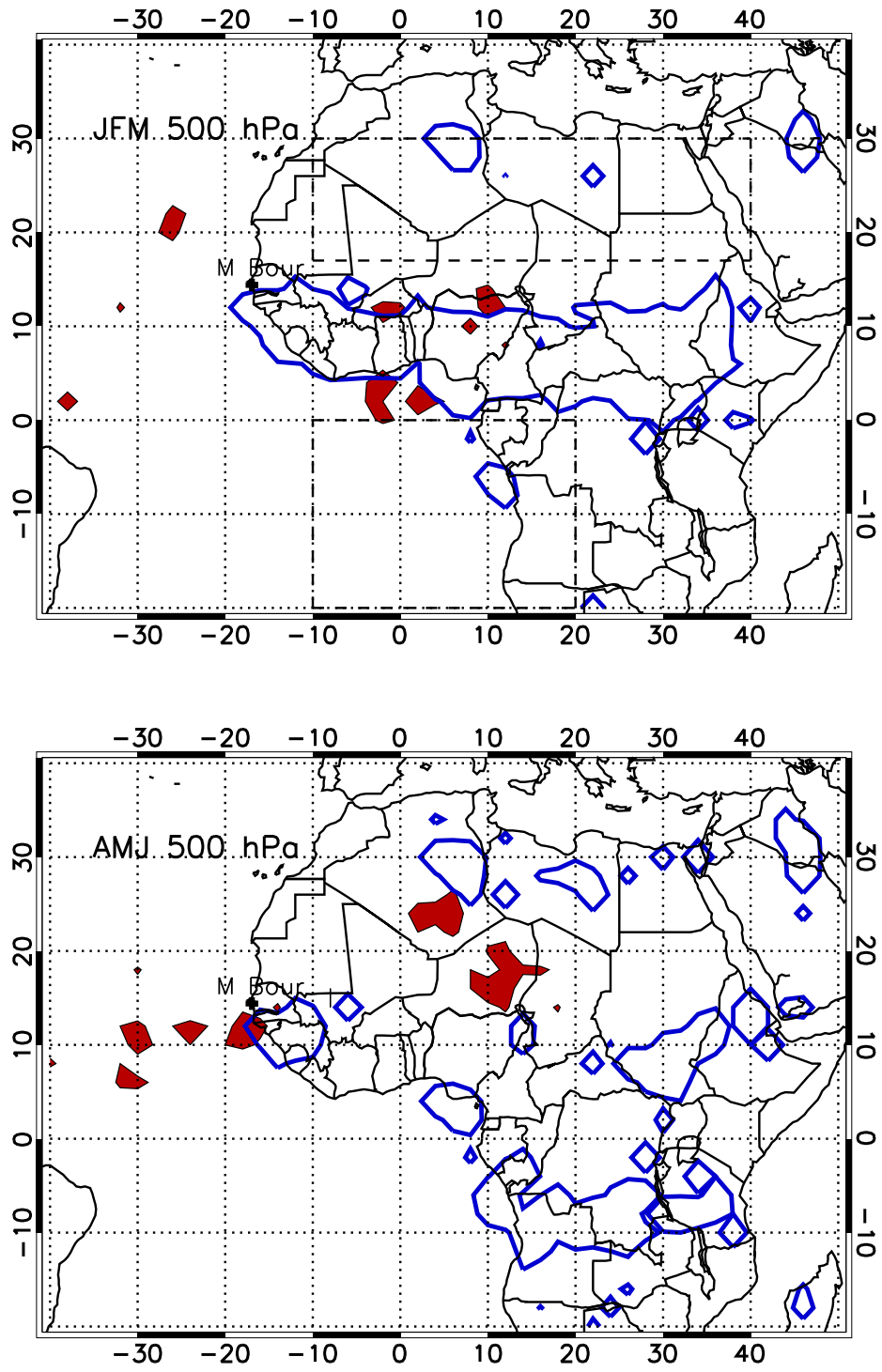


Figure S8

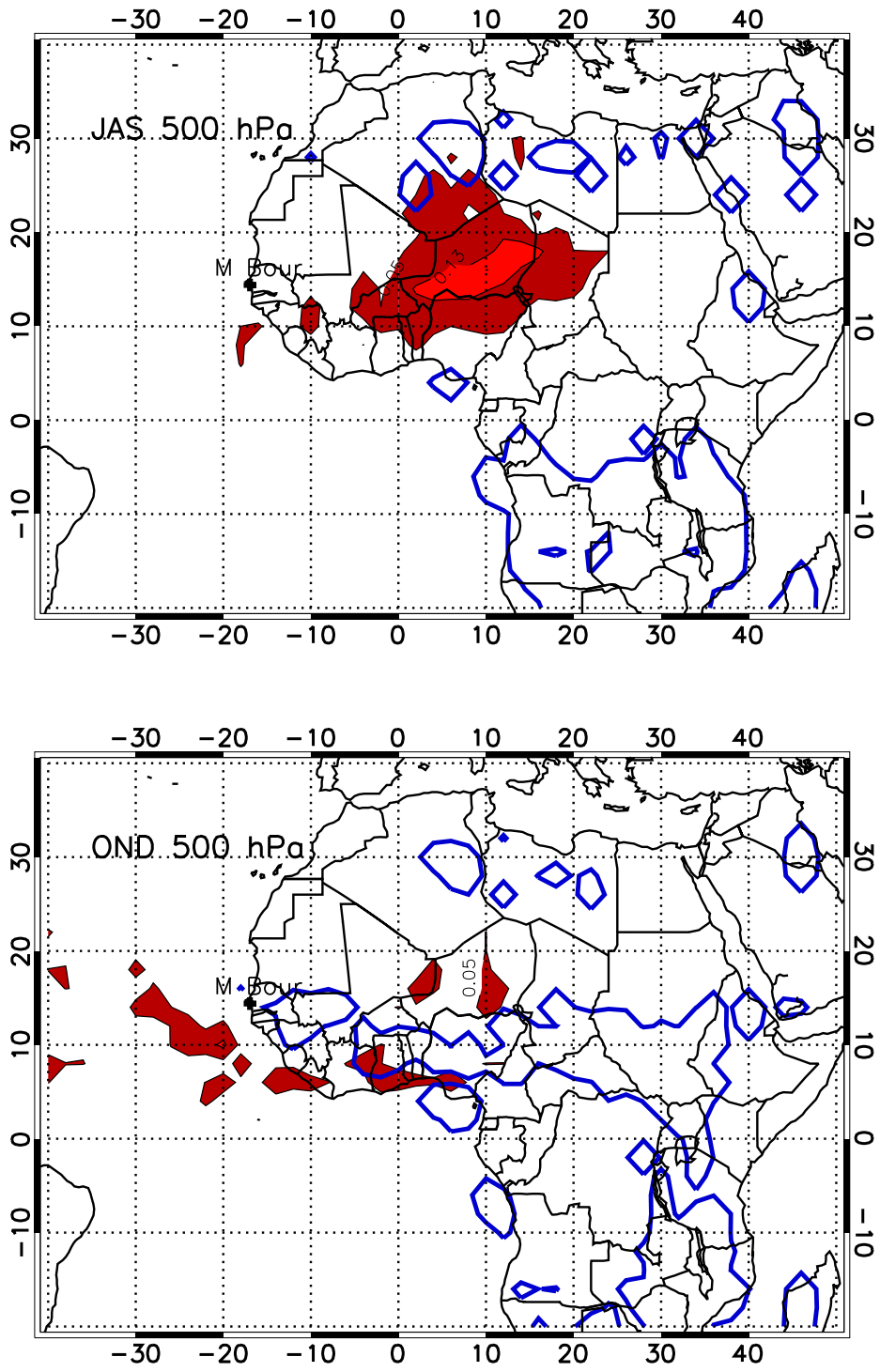


Figure S8

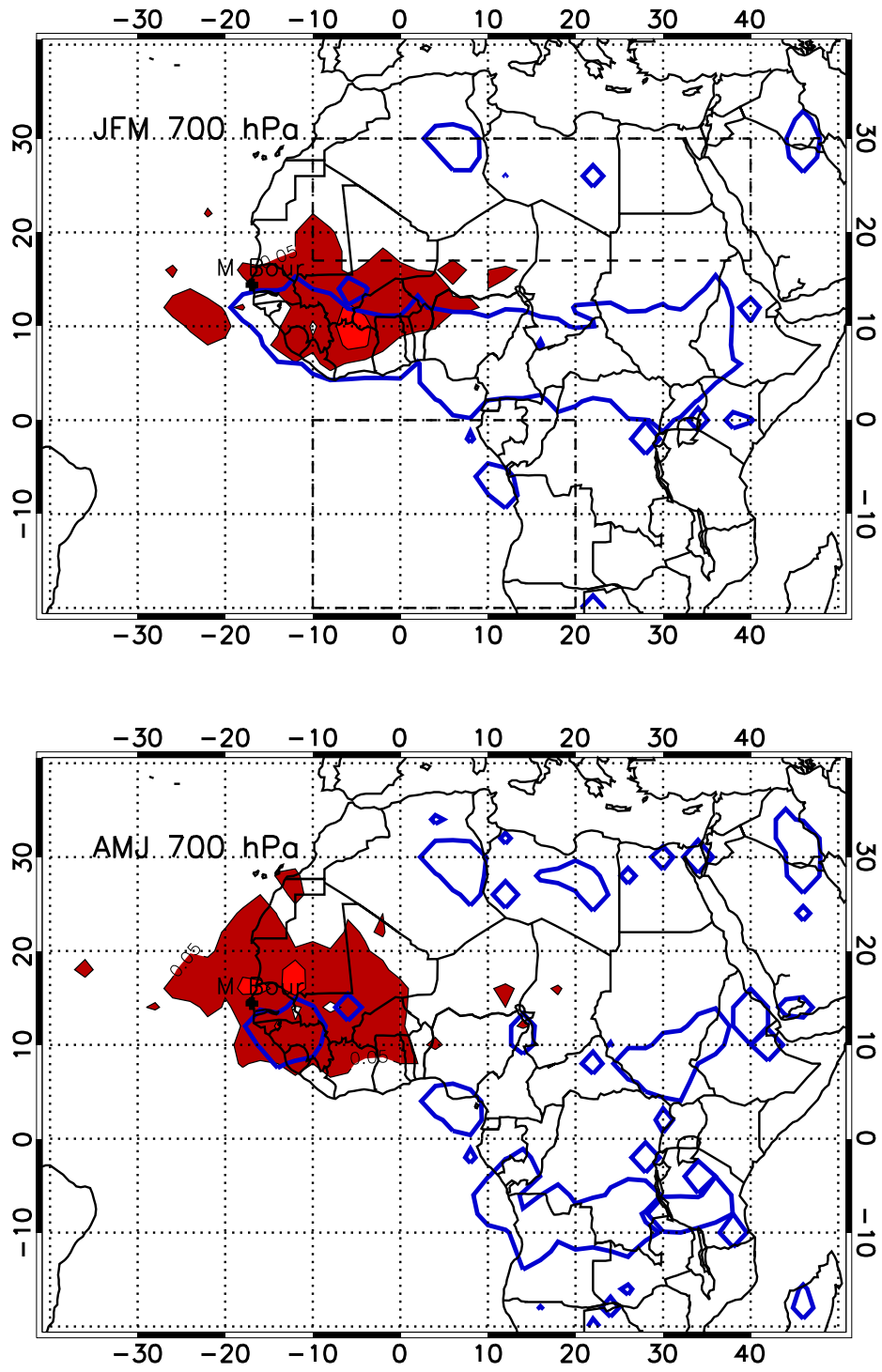


Figure S8

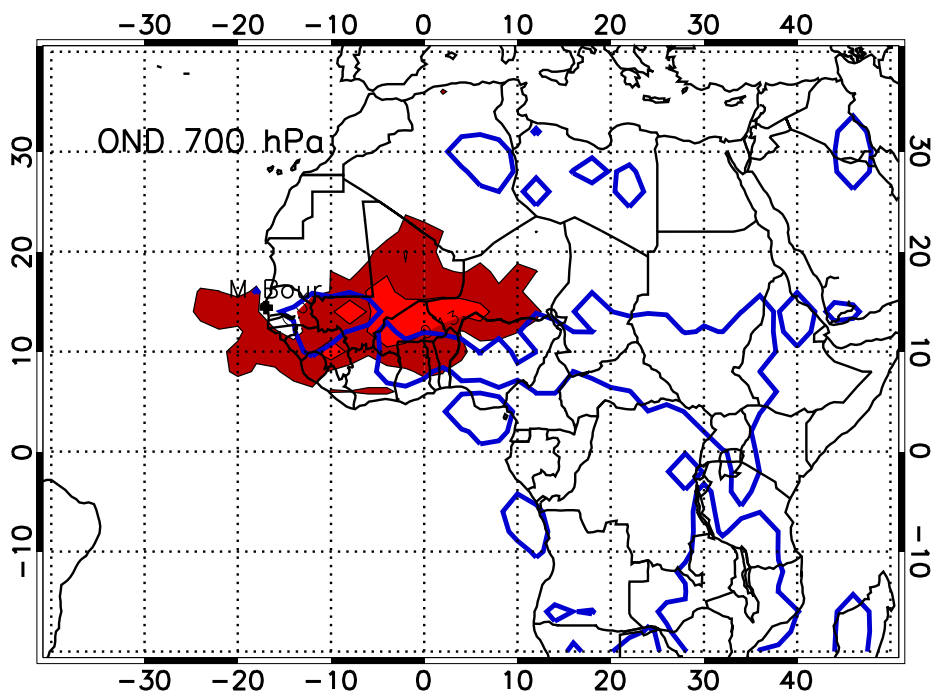
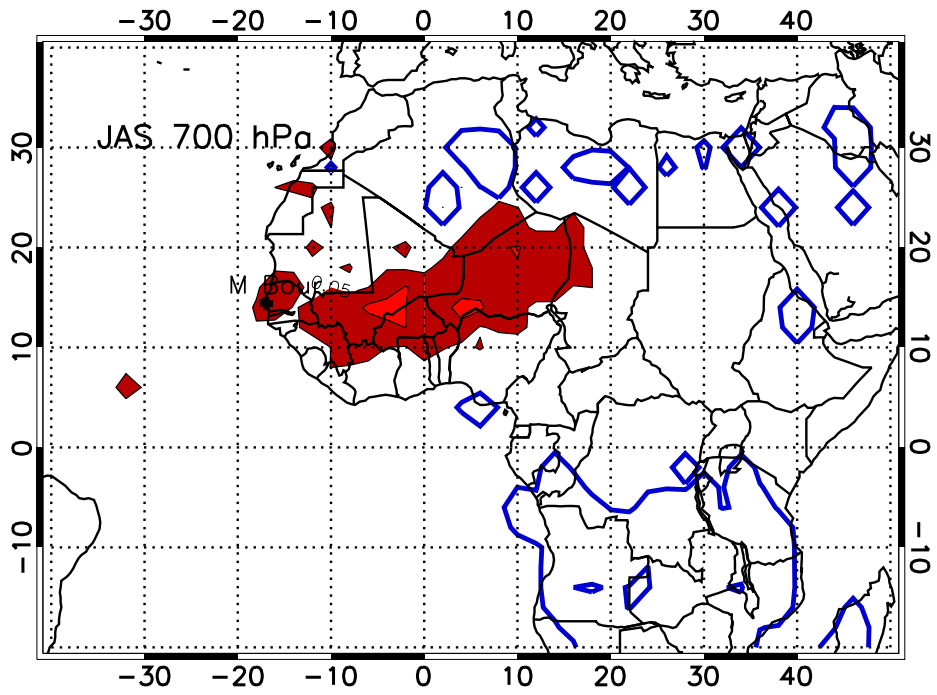


Figure S8

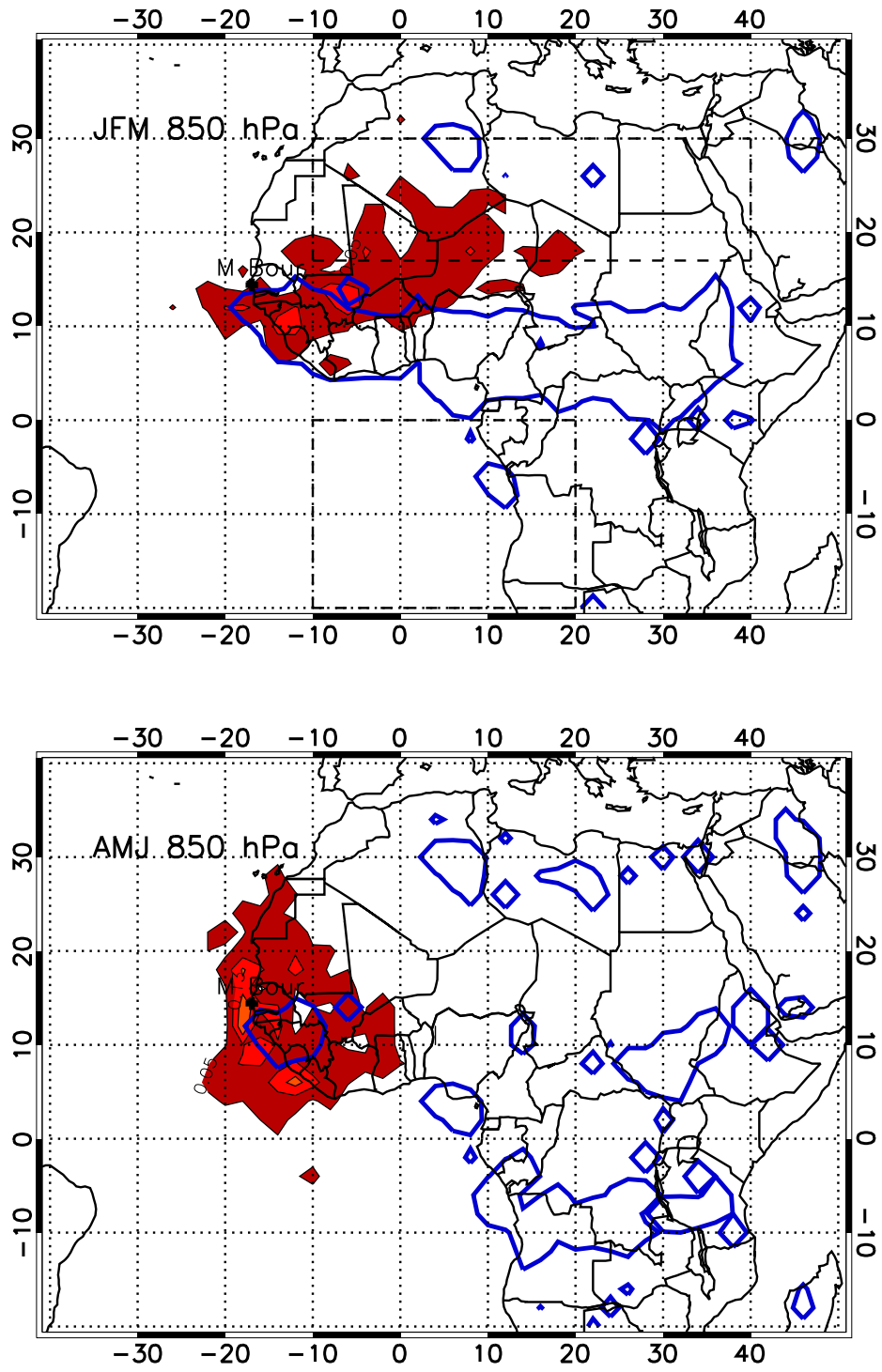


Figure S8

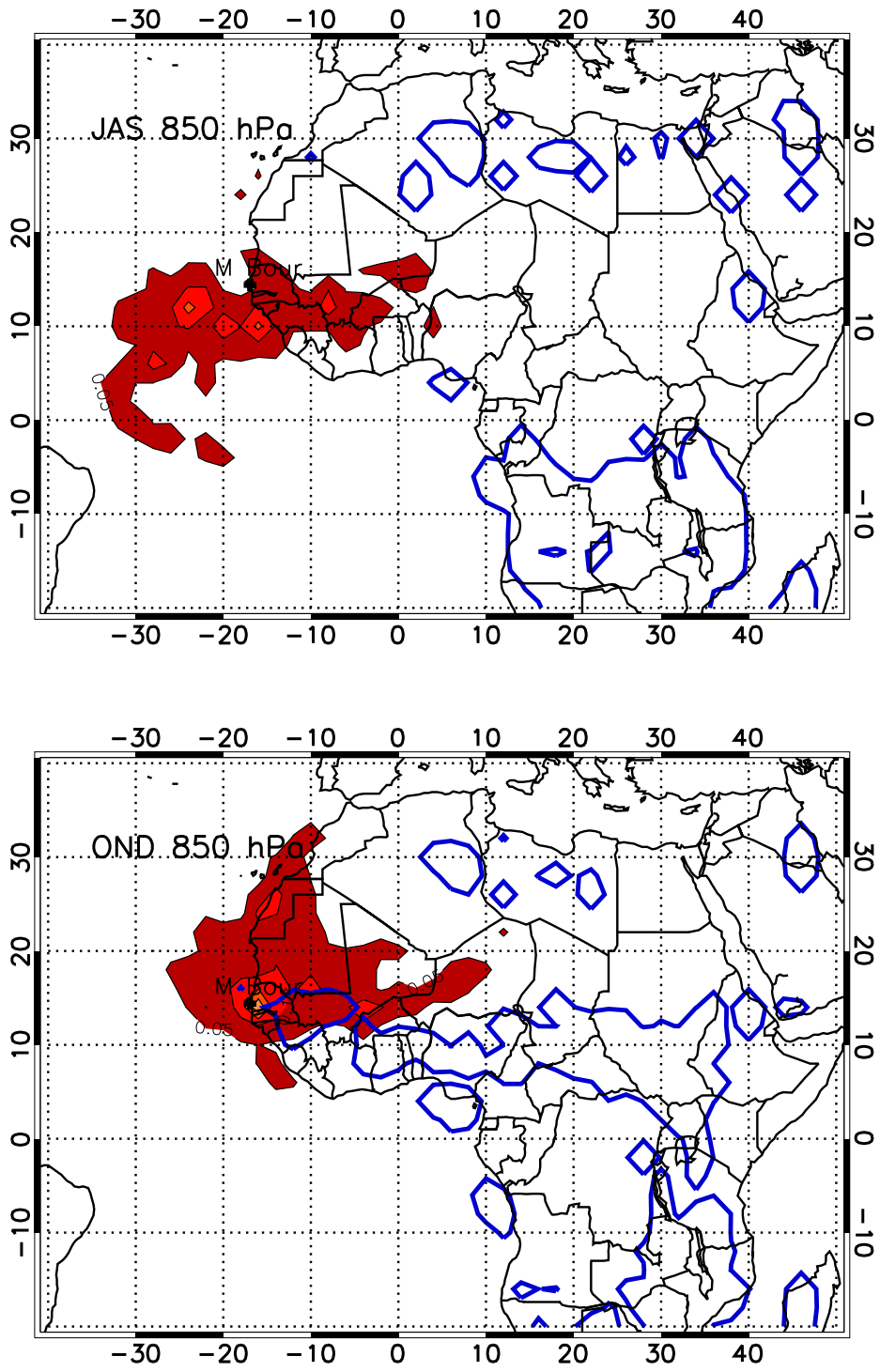


Figure S8

Following **Figure S9**. Number of trajectories per day averaged in different season during 2008 : January-February-March (JFM), April-May-June (AMJ), June-August-September (JAS), October-November-December (OND).

Trajectories are binned in a 2° lat-lon grid. Red contours represent the average position 4 to 6 days before arrival at 5000 hPa, 700 hPa, 850 hPa over M'Bour. Blue contours indicates areas where forest fires observed from AATSR occurs. Fire-pixel are taken into account if their number is larger than 10 in the three-months period

