Supporting Information

- 2 Lofting and circumnavigation of biomass burning aerosols and carbon
- monoxide from a North American wildfire in October 2020
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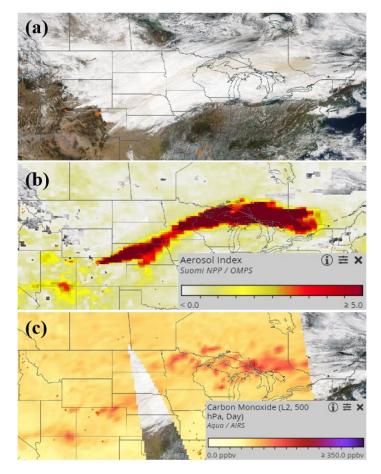


Figure S1. Satellite measurements of the pollutants generated from the wildfires over North America on October 22, 2020. (a) True color image from MODIS aboard Aqua. (b) Aerosol index from OMPS aboard Suomi NPP. (c) Carbon monoxide at the pressure level of 500 hPa from AIRS aboard Aqua.

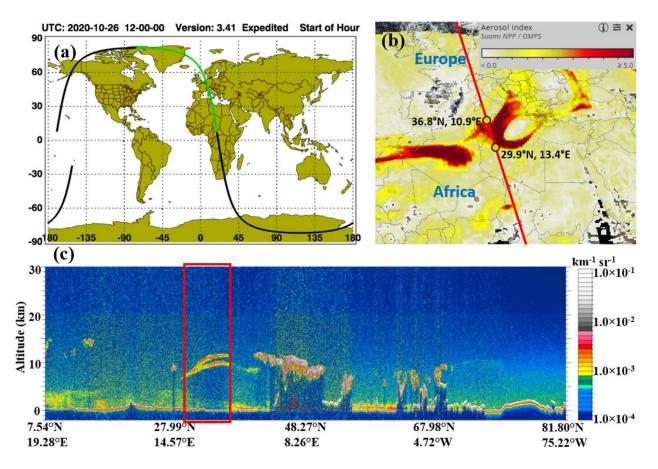


Figure S2. (a) Green line shows the track of CALIPSO when it passed over North Africa and Europe at local noontime on 26 October 2020. (b) Satellite observation of aerosol index, with the track of CALIPSO shown as red line. Two yellow points mark the range of the CALIPSO measurements of the smoke. (c) Vertical distribution of aerosol backscatter coefficient measured by the CALIPSO on 26 October 2020. The red box marks the duration of the measurements of smoke over the Mediterranean.

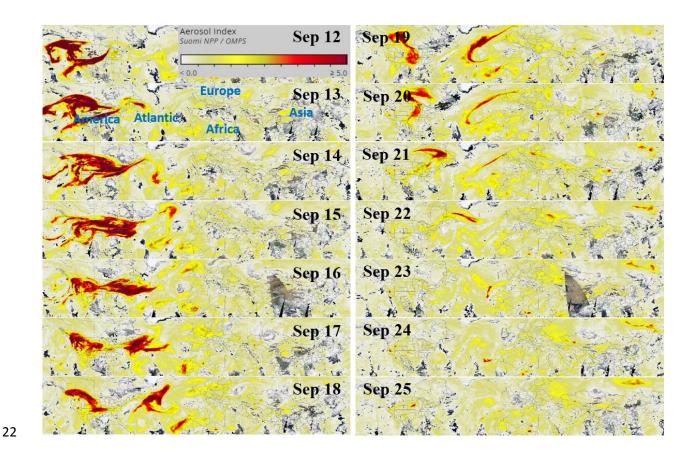


Figure S3. Spatial distribution of aerosol index in the Northern Hemisphere from the OMPS aboard Suomi NPP during September 12 to 25, 2020.

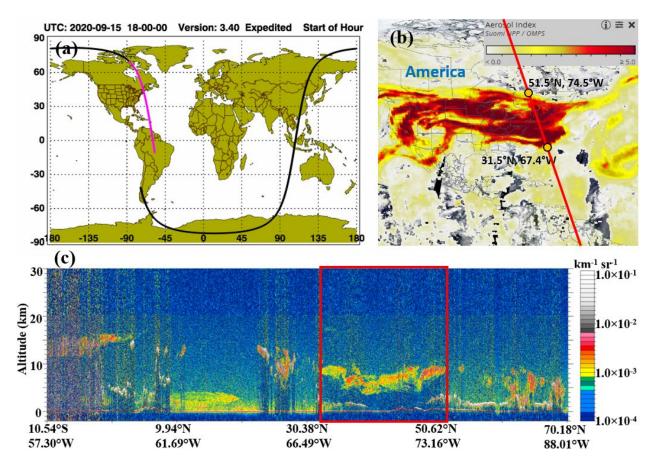


Figure S4. (a) Pink line shows the track of CALIPSO when it passed over North America at local noontime on 15 September 2020. (b) Satellite observation of aerosol index, with the track of CALIPSO shown as red line. Two yellow points mark the range of the CALIPSO measurements of the smoke. (c) Vertical distribution of aerosol backscatter coefficient measured by CALIPSO on 15 September 2020. The red box marks the duration of the measurements of smoke over North America.