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Supplement of

Estimation of atmospheric total organic carbon (TOC) – paving the path towards carbon budget closure

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Supplementary Materials

The UK Met Office's NAME dispersion model (Jones et al., 2007) was used to produce a footprint of the air arriving at PML every 3 hours. The residence time over the 5-day journey of airmasses over a series of geographical regions were calculated, and then converted into % relative residence times out of the whole domain. Examples of these two types of airmasses as well as the regional map used for the airmass classification are shown below.

5 day (0–100m) arriving at PML 3 Hourly release from: 20160909_2100

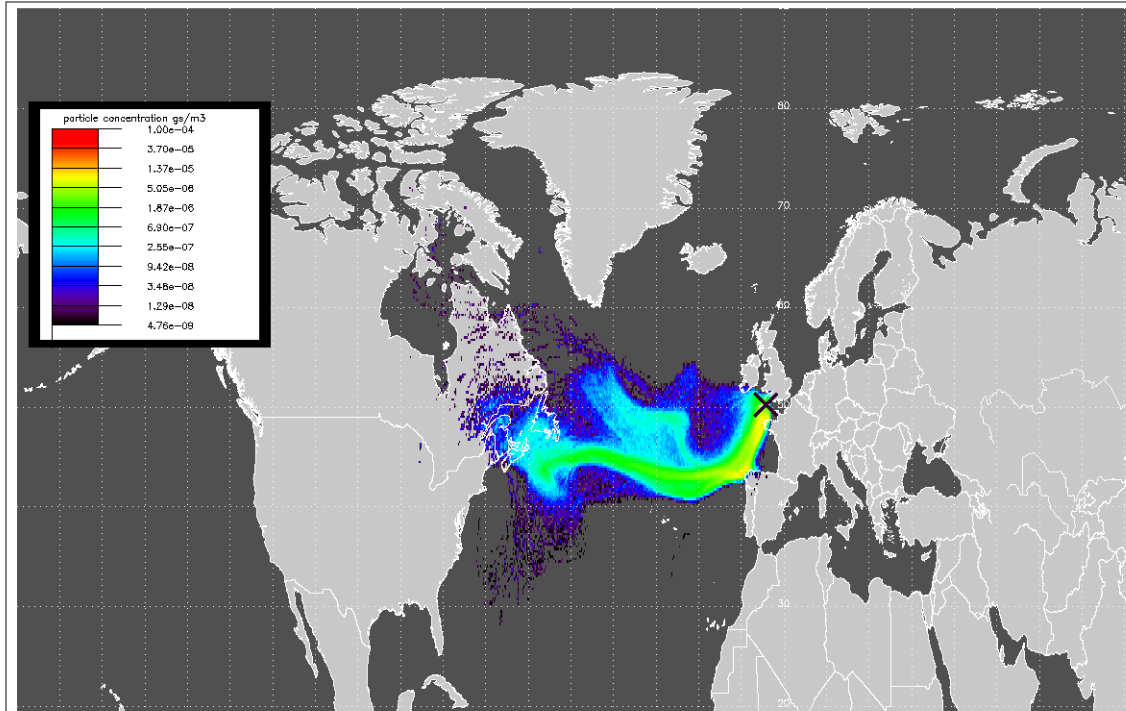


Figure S1. An example of an Atlantic-dominated airmass, which arrived at PML at 21:00 UTC on 9th September, 2016.

5 day (0–100m) arriving at PML 3 Hourly release from: 20160907_2100

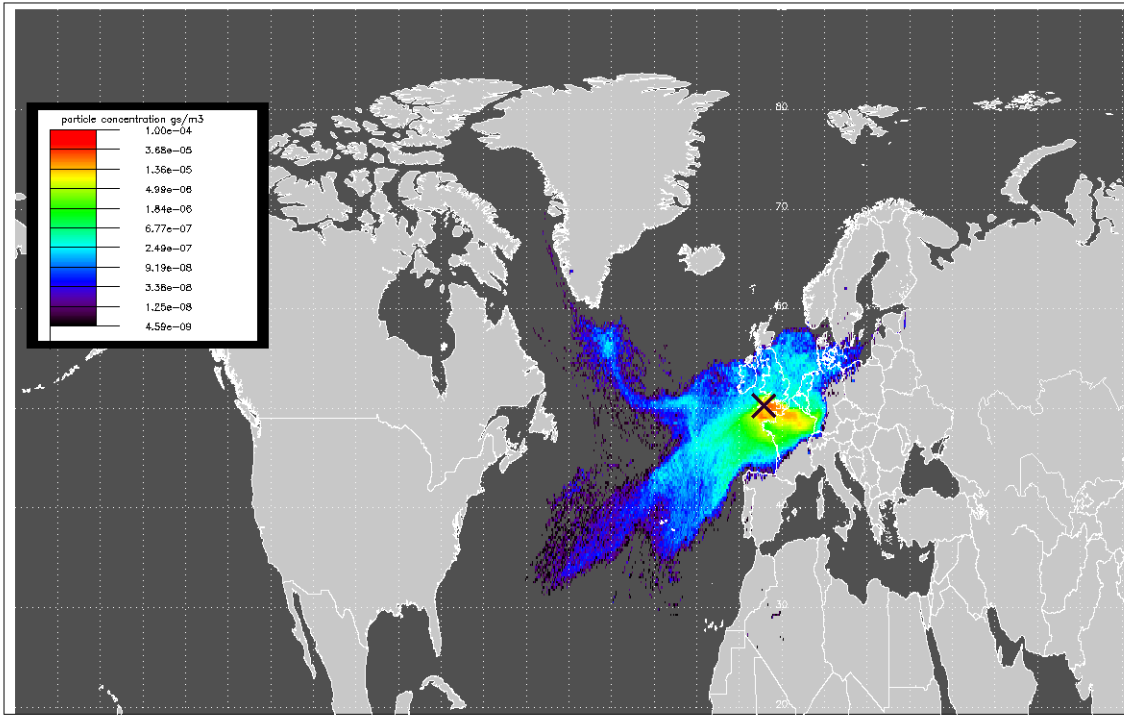


Figure S2. An example of a mainland Europe/English Channel-dominated air mass, which arrived at PML at 21:00 UTC on 7th September, 2016.

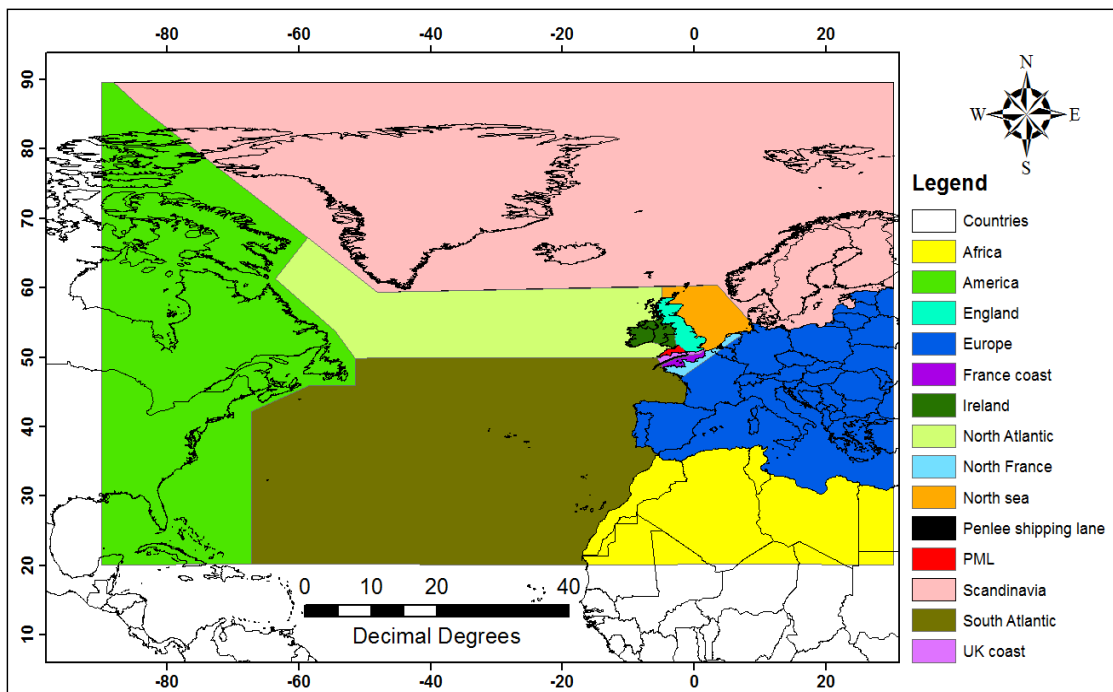


Figure S3. Regional map used for the NAME model air mass classification. Mainland Europe/English Channel is computed as the sum of 'Europe', 'France Coast', 'Penlee shipping lane', and 'UK coast.'