

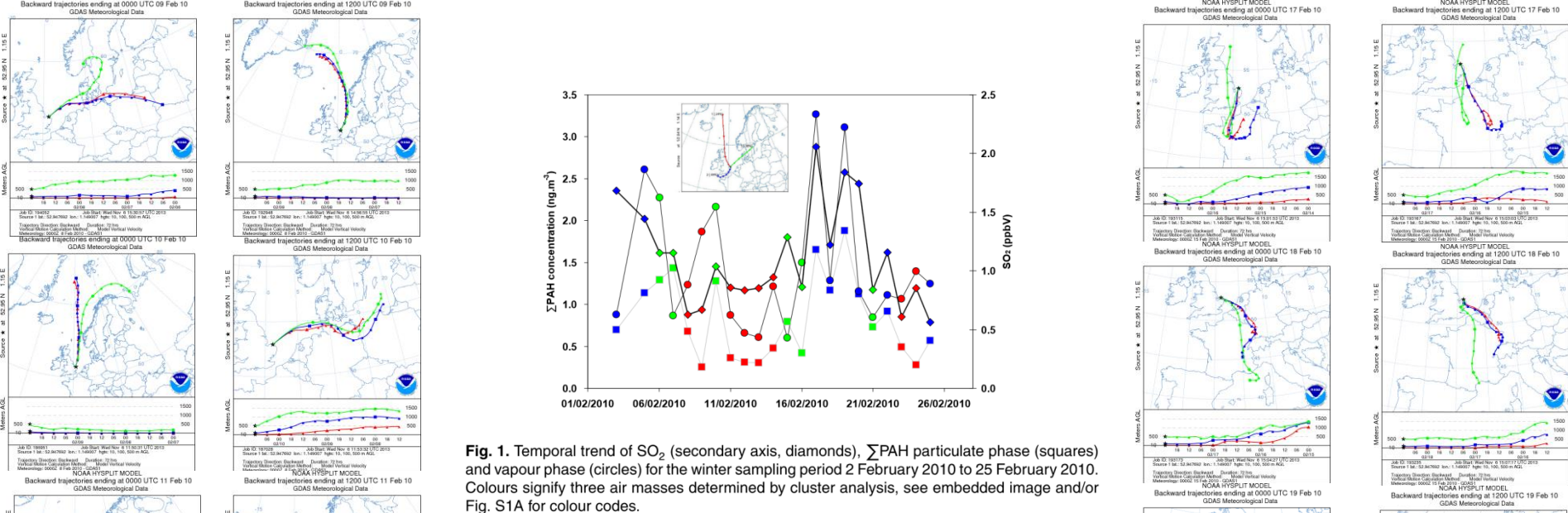


Fig. 1. Temporal trend of SO_2 (secondary axis, diamonds), ΣPAH particulate phase (squares) and vapour phase (circles) for the winter sampling period 2 February 2010 to 25 February 2010. Colours signify three air masses determined by cluster analysis, see embedded image and/or Fig. S1A for colour codes.

Table S1. Number of trajectories (out of 24) assigned to each cluster during the winter and summer sampling campaigns. See Figure S1A and S1B for clusters.

Winter Sampling Campaign (03-Feb-2010 to 25-Feb-2010)			
Date	GREEN (Scandinavia)	BLUE (Southern England)	RED (North Sea)
03-Feb-2010	6	18	
05-Feb-2010		24	
06-Feb-2010	15	9	
07-Feb-2010	24		
08-Feb-2010	6		18
09-Feb-2010	3		21
10-Feb-2010	24		
11-Feb-2010			24
12-Feb-2010			24
13-Feb-2010			24
14-Feb-2010	3		21
15-Feb-2010	19	5	
16-Feb-2010	15	9	
17-Feb-2010	4	20	
18-Feb-2010	5	19	
19-Feb-2010	1	23	
20-Feb-2010	3	21	
21-Feb-2010	16	8	
22-Feb-2010	6	18	
23-Feb-2010		5	19
24-Feb-2010			24
25-Feb-2010		24	

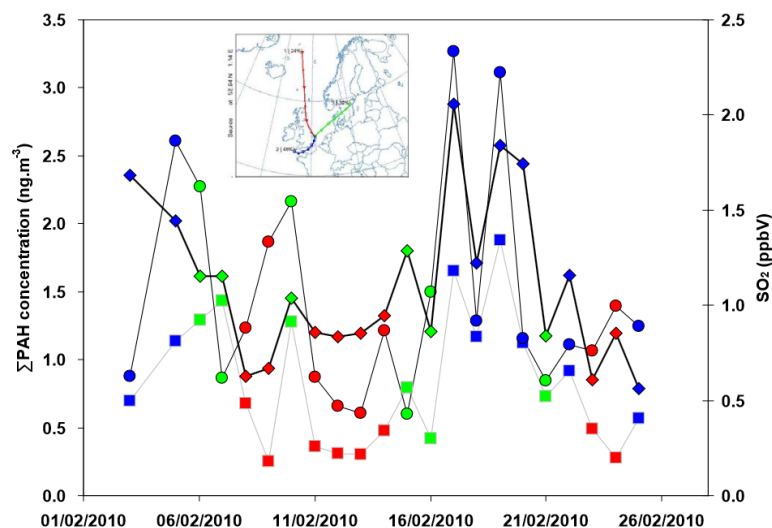


Fig. 1. Temporal trend of SO₂ (secondary axis, diamonds), ΣPAH particulate phase and vapour phase (circles) for the winter sampling period 2 February 2010 to 25 Feb 2010. Colours signify three air masses determined by cluster analysis, see embedded in Fig. S1A for colour codes.

Table S1. Number of trajectories (out of 24) assigned to each cluster during the winter and summer sampling campaigns. See Figure S1A and S1B for clusters.

Winter Sampling Campaign (03-Feb-2010 to 25-Feb-2010)			
Date	GREEN (Scandinavia)	BLUE (Southern England)	RED (North Sea)
03-Feb-2010	6	18	
05-Feb-2010		24	
06-Feb-2010	15	9	
07-Feb-2010	24		
08-Feb-2010	6		18
09-Feb-2010	3		21
10-Feb-2010	24		
11-Feb-2010			24
12-Feb-2010			24
13-Feb-2010			24
14-Feb-2010	3		21
15-Feb-2010	19	5	
16-Feb-2010	15	9	
17-Feb-2010	4	20	
18-Feb-2010	5	19	
19-Feb-2010	1	23	
20-Feb-2010	3	21	
21-Feb-2010	16	8	
22-Feb-2010	6	18	
23-Feb-2010		5	19
24-Feb-2010			24
25-Feb-2010		24	
Summer Sampling Campaign (06-Aug-2010 to 02-Sep-2010)			
Date	RED (Mainland UK)	BLUE (Southern England)	GREEN (North Sea)
06-Aug-2010	5	19	
07-Aug-2010		19	5
08-Aug-2010	3		21
09-Aug-2010	18	6	
10-Aug-2010	7	17	
11-Aug-2010	24		
13-Aug-2010			24
14-Aug-2010			24
15-Aug-2010			24
16-Aug-2010	5		19
17-Aug-2010	20	4	
18-Aug-2010	24		
19-Aug-2010	6	18	
20-Aug-2010		24	
21-Aug-2010		24	
22-Aug-2010		24	
23-Aug-2010	8	16	
24-Aug-2010	24		
25-Aug-2010	24		
27-Aug-2010	6		18
28-Aug-2010	24		
29-Aug-2010	5		19
30-Aug-2010			24
31-Aug-2010			24
01-Sep-2010			24
02-Sep-2010			24